

# THE SCHOOL REVIEW

A JOURNAL OF SECONDARY EDUCATION

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VOLUME XXII

OCTOBER 1914

NUMBER 8

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## THE STIMULATIVE AND CORRELATIVE VALUE OF A WELL-BALANCED COURSE IN COMMERCE AND INDUSTRY—*Concluded*

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### IV. THE STIMULATIVE VALUE OF THE PROPOSED COURSE

The inherent stimulative features of a given course are to be judged by its probable power to create an inquiring mental attitude which will be satisfied only by further seeking after light or by the solution of problems; to awaken and maintain mental activity; or so to inspire and elevate the individual that he no longer is satisfied to live on a former level or in a previous mental or physical environment.

The following appear to be some of the stimulative elements of the course:

1. Pupils will approach this subject in anticipation of having many questions answered in which they are interested because the subject is connected with business life, about which their minds are already inquiring. This expectant attitude will prove a wonderful asset to the teacher of this subject. Professor Hanus touches upon this point in a forceful fashion when he says:

All teachers are aware that the only way to arouse the minds of some pupils lies through the "practical studies." Some minds are for a time quite inaccessible to the intellectual pursuits as such. To such pupils intellectual

pursuits acquire interest and significance only as they are seen to be associated with trade, manufacture, or commerce. Mathematics, natural science, and foreign languages acquire significance for many minds only when it becomes clear that these subjects underlie important phases of industrial or commercial life. Undertaken at first because of an interest with which they are associated, these subjects acquire, under wise guidance, a significance that belongs to them as such, and the way to general culture lies, for a time at least, through manual and commercial training.<sup>1</sup>

2. Pupils will enter this course without fear of its difficulties, as it is not in a field wholly unknown to them; it calls for facts of which they already have considerable knowledge, as in geography, nature-study, history, etc. This means confidence, and confident expectation of success is highly stimulative.

3. The course awakens keen interest in commercial problems because much of the material which is the basis of study lies close at hand, and pupils need but to have their attention properly directed in order that they may see things all about them which have a commercial bearing and the causes or relations of which they desire to know. Goode says:

The student properly trained in it [commercial geography] will have his eyes opened to the multitude of great problems of modern society and will be well started in the way to know the forces involved and the methods of solution of these problems. Above all, he will be impressed with the idea that things do not happen—they are caused—and that often social and economic problems may be solved by study and thought.<sup>2</sup>

4. Through the necessity of seeking material for use as clippings the habit of reading the newspapers and magazines is inculcated, with the result that the pupils find new food for thought, and this uncovering of new information makes them feel like discoverers of truth, and their interest in the developments of commercial activities is enhanced. DeGarmo advises "that the student be placed in the attitude of a discoverer; that he be set to finding out things for himself."<sup>3</sup>

5. The investigation which is necessary in order to write a formal paper on the work of a bureau of the national government,

<sup>1</sup> Paul H. Hanus, *The Modern School*, p. 25.

<sup>2</sup> J. Paul Goode, *Journal of Geography*, December, 1905, p. 432.

<sup>3</sup> Charles DeGarmo, *Principles of Secondary Education*, chap. viii.

as well as the study of our nation's position in agriculture, manufacture, mining, transportation, and invention, leads to a feeling of pride in our country, her people, and their wonderful achievements.

6. The comments on clippings, the written and oral reports on visits and investigations, offer an unusual opportunity for pupils to express themselves on new subjects about which they are gaining knowledge and for which they almost invariably feel an enthusiasm. That "knowledge is power" is peculiarly applicable here, for a little knowledge helps to develop power. Ex-President Eliot, of Harvard, has said: "The power to understand rightly and to use critically the mother-tongue is the flower of all education." There can be no flower without a bud, and the language work which is possible in this portion of the work may well lead to the production of a flower.

7. There is a peculiar and lasting stimulation when pupils discover for themselves that their only wise course is to proceed with their secondary-school education until its completion. Frequently when classes are asked what impressions they gathered or what lessons they learned in visits to leading manufacturing establishments, they make reference to the large numbers of poorly paid, monotonously employed people whom they have seen at their work. Thus they demonstrate that they have discovered that the reason is clearly lack of education or of skill of an uncommon type.

8. The money-making and power-conferring possibilities of business, which are everywhere apparent to one who observes, naturally get into the minds of many pupils, and thus they may become permanently possessed of an ambition which will ultimately carry them to opulence or usefulness or the gratification of accomplishment.

9. Perhaps the crowning stimulative element of this course is the consciousness which students have that they possess a body of related facts, know the causes which underlie this knowledge, and would know where to seek for further or for exhaustive knowledge on a given topic should occasion arise. The fact that they could secure fairly complete information regarding processes of manufacture of most materials in the United States, with discriminating

statistics relating to the same, or to agriculture, mining, transportation, population, etc., from publications with which they have become familiar is an invaluable source of strength.<sup>1</sup>

#### V. THE PEDAGOGICAL VALUE OF THE PROPOSED COURSE

DeGarmo<sup>2</sup> asserts that facts are acquired by authority, by observation, and by experiment. He discusses the merits and demerits of each. On the basis of this classification the course appears to be well balanced, since many of its facts are acquired in each of these ways.

*By authority.*—While it is true that knowledge acquired in this way begets a passive attitude of mind, and its ease of acquirement interferes with a sense of its value, it is to be noted that if an individual is to be progressive in knowledge, or well educated, he must accept on authority of others much of his knowledge. The limitations of time and the magnitude of the field of knowledge do not permit each individual by personal observation or experiment to acquire the knowledge which others have worked out. It is, furthermore, beneficial for him to feel that the efforts, opinions, and knowledge of others are worth while and should receive recognition from him. The study of the textbook, the preparation for writing of comments on clippings, and the special talks by the teacher on unfamiliar industries, all furnish a broad field for acquiring facts by authority. Pupils should be taught and urged to weigh all facts so acquired as to their probable truth in the light of reason and the reliability of the source of information.

*By observation.*—This method has the advantage of yielding a greater probability of truth and a greater vividness of impression. Objects are identified by their characteristic qualities or actions, these first impressions are verified, and the resultant knowledge of classes of things is stored away for possible further additions of knowledge, and further observation often leads to the storing-up of knowledge in general terms. The keeping of the clipping-book, the visits to factories and transportation plants,

<sup>1</sup> Mr. Anderson continues his paper by showing how the course "commerce and industry" correlates with all the other subjects of the high-school curriculum. Lack of space forbids the publication of his entire paper.

<sup>2</sup> Charles DeGarmo, *op. cit.*, chap. i.

the study of specimens and the plant collection all offer fine fields for acquiring knowledge by observation. The interest stimulated by this observation while in school will prove most valuable, as the habit of observation will naturally continue and lead to a progressive acquirement of knowledge through observation.

*By experiment.*—Experiment is the act of observing when the observer controls some of the conditions which make experiment possible; or, as Huxley asserts, it is "artificial observation." There is not much in this course which yields to experimentation, yet it is not entirely lacking in possibilities in this method of acquiring facts. The specimen collection and the plant collection both provide opportunity for experiment. In some cases, specimens such as the collection contains may be taken and the results achieved by manufacturing crudely approximated. As instances the following may be mentioned:

**Vegetable kingdom:** A few pounds of crude beets or sugar cane may be secured. These can be cut fine, boiled to liquefy the sugar content, filtered through a bag to remove mechanical impurities, decolorized through bone charcoal, and boiled down to crystallize. The crystals must be separated from the syrup for refined sugar.

**Animal kingdom:** The green hide of a lamb or a portion of a calfskin might be secured from an abattoir, limed to remove the hair, tanned in a vegetable or mineral tan, and then curried to soften and finish.

**Mineral kingdom:** A thin disk of lead might be made, placed in a vessel over a small amount of acetic acid, and this combination placed in a closed box, the bottom of which has been filled with tannbark. The fermenting bark will give off carbonic acid gas, and the two gases acting on the lead disk for about one hundred days will corrode it and turn it into a white solid, which can be ground and mixed with linseed oil to make white paint.

These few experiments are typical and will require time and careful observation from the teacher. After they have been successfully performed, the teacher can conduct them with the knowledge of the class.

The plant collection will yield a broader field for experiments and will prove much more simple.

Barley can be grown and the mature grain can be moistened to start germination; germination being arrested by breaking off the sprouts, malted barley is the result.

Crude sugar syrup can be secured from sugar beets by slicing and soaking in water and boiling down the beets.

Oils can be expressed from the seeds of the oil-producing plants—cotton, flax, hemp, sunflower, rape, peanut, and castor oil bean.

Fibers can be secured from the cotton, flax, hemp, and ramie plants.

Tobacco can be raised in several varieties, dried, and their differences observed and tested.

If coffee and tea can be raised, roasting and curing might be tried.

These are a few of the most likely experiments that are possible. No claims as to their outcome are made. That would depend on the experimenter. The teacher would need much patience, some apparatus, a knowledge of chemistry, and a familiarity with the simpler processes in use by the manufacturers.

Judged from the standpoint of psychology, this course would compare favorably with many very valuable subjects. Judgment and reason are developed to a good degree in the study of the explanation (physical, political, and economic) of the geographic division of labor—the localization of industry; discrimination is the keynote of the work on the clipping-books; imagination is strengthened through the use of specimens from all parts of the world and from so many varied industries; emotion is awakened through contemplation of the greatness of the United States in the leading lines of human effort and human needs; and the will is strengthened in the doing of tasks at stated times on the pupils' own responsibility without being watched by the teacher, as in seeking clippings and writing comments regularly; while that most important trait, initiative, is developed to a marked degree through the visits and formal reports, and the investigations in the departmental work.

## THE DEVELOPMENT OF HISTORICAL STUDY IN THE SECONDARY SCHOOLS OF THE UNITED STATES—*Concluded*

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### III. HISTORY IN THE SECONDARY SCHOOLS OF THE UNITED STATES

*The types of early secondary schools.*—The grammar schools in the height of their development fell within the colonial period. The school which then rose to great popularity was the academy. We have seen the plans for the Philadelphia Academy, and the mention of a few others, but following the Revolution academies were incorporated and endowed in large numbers in all the states and were recognized as the secondary schools. The aim of the academy contrasted with that of the grammar school shows the difference between the schools—a broad, liberal education versus a preparation for the university.

In a later period the free public high school was organized. This system of secondary education finally triumphed over the academy about the middle of the nineteenth century.

*Academies and grammar schools in which history was a subject.*—The Boston Public Latin School, which was founded in 1635, is the best-known survivor of the old New England grammar school. We are fortunate in having a history of this interesting school in which the curriculum receives some attention. By reference to Barnard's *American Journal of Education* and Inglis' *Rise of the High School in Massachusetts*, the development of history study for a century can be shown. The earliest date found for history is 1784 when William King's *Historical Account of Heathen Gods and Heroes* was used.<sup>1</sup> Under Mr. Gould's mastership (1814-24) the curriculum was increased in 1819, and Valpy's *Chronology of Ancient and English History* came in the second year.<sup>2</sup> During

<sup>1</sup> Barnard, *American Journal of Education*, IV, 333.

<sup>2</sup> Henry F. Jenks, *Catalogue and Historical Sketch of the Boston Public Latin School*, p. 61.

the last two years Wyttenbach's *Greek Historians* was used.<sup>1</sup> Adams' *Roman Antiquities* was another book in use at this time.<sup>2</sup> In 1821 Tokke's *Pantheon of Heathen Gods* seems to have supplanted King's work.<sup>3</sup> In 1823 Wyttenbach's *Greek Historians* was the only historical work included in the curriculum. This seems strange because there had been a steady development in the teaching of history. This condition is better explained by the meagerness of the report rather than by actual conditions.

In 1784 Joseph Miller, A.B., of the University of Philadelphia, taught geography and history in Washington Academy, Maryland.<sup>4</sup> York Academy, in Pennsylvania, 1787, a school of high grade, from the first had history in its curriculum.<sup>5</sup> The plan of study for Union Academy, Pennsylvania, in 1794, also contained elements of history.<sup>6</sup> Trenton Academy, New Jersey, in 1789 gave certificates to such scholars as had studied the English language and had gained a "competent knowledge of at least two of the following branches, viz., extraction of the roots, algebra, mathematics, geography, chronology, history . . . .," etc.<sup>7</sup> The Episcopal Academy, Connecticut, 1795, offered history.<sup>8</sup>

In Phillips Exeter Academy, the certificate given to Lewis Gass, October 2, 1799, stated that he had acquired the principles of the English, French, Latin, and Greek languages, and had made valuable progress in the study of rhetoric, history, natural and moral philosophy, logic, astronomy, and natural law.<sup>9</sup> In 1818 the course of study in the classical department contained Roman history in the second year, elements of ancient history and Adams' *Roman Antiquities* in the advanced class.<sup>10</sup> For the English department, the second year had elements of ancient history, and the third, elements of modern history, particularly that of the United States.<sup>11</sup> The year 1818 is early for many detailed courses in history, although the emphasis was still on classical history.

<sup>1</sup> Henry F. Jenks, *op. cit.*, p. 63.

<sup>2</sup> *Ibid.*, p. 64.

<sup>3</sup> E. L. Pierce, *Memoir of Charles Sumner*, XIX, 37.

<sup>4</sup> Bernard C. Steiner, *History of Education in Maryland*, p. 40.

<sup>5</sup> J. P. Wickersham, *History of Education in Pennsylvania*, p. 92.

<sup>6</sup> *Ibid.*, p. 480. <sup>7</sup> David Murray, *History of Education in New Jersey*, p. 125.

<sup>8</sup> B. C. Steiner, *History of Education in Connecticut*, p. 56.

<sup>9</sup> George C. Bush, *History of Education in New Hampshire*, p. 108.

<sup>10</sup> E. E. Brown, *The Making of Our Middle Schools*, p. 237. <sup>11</sup> *Ibid.*, p. 238.

In North Carolina the Caldwell School, established by Dr. David Caldwell in Guilford County, 1799-1867, served for many years as an academy, a college, and a theological seminary.<sup>1</sup> The statement was made that the opportunities for instruction were limited in this school, and that the students had no books on history or miscellaneous literature.<sup>2</sup> This probably was because Guilford County was not near a port town.

The Moravians who settled in North Carolina had rather an unusually full curriculum for their schools. An account of the Moravians written about 1800 contains the following: "The male children of the inhabitants of the town and of other members of the congregations living in the neighborhood receive from their sixth to fourteenth year instruction in reading, writing, German, English, ciphering, history, geography, and some of them in the rudiments of the Latin language, drawing, and music."<sup>3</sup>

Moses Waddel, of South Carolina, established a school at Willington in 1804. In this "Sylvan Retreat" was taught antiquities of Greece and Rome, history and geography of the ancients.<sup>4</sup>

In the Washington County Grammar School of Vermont the following by-laws, "believed to be representative of their kind," were adopted July 20, 1817: "Instruction shall be afforded in reading, writing, English grammar, arithmetic, geography, Latin and Greek, geometry, trigonometry, surveying, composition, elocution, and history."<sup>5</sup> The statement was also made that most secondary schools were operated upon the same basis.<sup>6</sup> This same school in 1829 issued honorary certificates upon the basis of examination in certain studies, among which were Vermont history, United States history, and general history.<sup>7</sup>

In 1818 three schools were found in which history was a study. Dr. Thomas Hun, who attended Albany Academy at this time, used Adams' *Antiquities*.<sup>8</sup> The young ladies of the senior class of the Manhattan School, New York, were examined on Saturday, August 1, 1818, in English grammar, analysis of language, rhetoric,

<sup>1</sup> C. L. Smith, *History of Education in North Carolina*, p. 27.

<sup>2</sup> *Ibid.*, p. 30.

<sup>3</sup> *Ibid.*, p. 47.

<sup>4</sup> Colyer Meriwether, *History of Education in South Carolina*, p. 47.

<sup>5</sup> George C. Bush, *History of Education in Vermont*, pp. 76-77. <sup>6</sup> *Ibid.*, p. 78.

<sup>7</sup> *Ibid.*, p. 78.

<sup>8</sup> Murray, *History of Education in New Jersey*.

composition, reading, arithmetic, ancient and modern history, chronology, ancient and modern geography, etc.<sup>1</sup> Announcement was also made in the *Academician* of the young ladies of Fayetteville, North Carolina, "who manifested accurate knowledge in some of the important branches of education, viz., English grammar, Geography, History, and Astronomy."<sup>2</sup>

In 1819, Mr. Emerson's Female Seminary at Wethersfield, Connecticut, was using Whelpey's *Compend of General History*.<sup>3</sup> In 1826 this school devoted twenty-five weeks to geography and chronology and forty weeks to the "Civil Ecclesiastical History of our Country not contained in the Bible."<sup>4</sup> In explanation of the time devoted to geography and chronology, the oft-repeated phrase of Locke's, that geography and chronology are the eyes of history, is used.<sup>5</sup> The explanation continued: "How many, also, have attempted their way through the historic fields without these lights! How dark and bewildering has been their course! The study of history then should be preceded by that of geography, and either preceded or accompanied by that of chronology."<sup>6</sup>

Pittsfield Academy, Massachusetts, in 1822, gave a course of study in history.<sup>7</sup>

Mr. George B. Emerson, who had charge of the English Classical School in its beginning (1821), opened a Young Ladies' School in Boston in 1823 in which he taught history.<sup>8</sup>

Leicester Academy, in 1824, used Whelpey's *Compend of History*.<sup>9</sup>

Derby Academy, Hingham, Massachusetts, in 1826 was using books by Tytler, Adams, and Worcester.<sup>10</sup> The annual report of

<sup>1</sup> *The Academician*, Vol. I, New York, Saturday, August 15, 1818, No. 9, p. 144.

<sup>2</sup> *Ibid.*, Vol. I, August 29, 1818, No. 10, p. 176.

<sup>3</sup> In an advertisement in S. R. Hall's *Lectures on School Keeping*, 1829, Rev. Mr. Emerson is said to have stated in the prospectus of his Female Seminary that he had been using Whelpey's *Compend of General History* for ten years.

<sup>4</sup> *American Journal of Education*, I (1826), 540.

<sup>5</sup> *Ibid.*, p. 542.

<sup>6</sup> *Ibid.*, p. 540.

<sup>7</sup> A. J. Inglis, *The Rise of the High School in Massachusetts*, p. 138.

<sup>8</sup> H. F. Barnard, *American Journal of Education*, XXVIII, 269.

<sup>9</sup> Inglis, *op. cit.*, p. 138.

<sup>10</sup> *American Journal of Education*, I (1826), 433.

the Elizabeth Female Academy of the same year included history, chronology, and constitution and goverment of the United States in its course of education.<sup>1</sup>

No general conclusion can be reached concerning this early period, 1776-1820, because of the meagerness of the data which can be obtained, and because of the vagueness of the term history. But history, especially in its classical phase, had a place in the curricula of some well-known secondary schools.

*History in the New York academies from 1836.*—The next period of academical education which will be taken up shows history as an important study in the curriculum. While no data are obtainable before 1836, such a development would not have come at once, and therefore it is safe to conclude that history had a place in the curricula of the New York academies before 1836, although official recognition was not given until that year, as will be shown.

The academies of New York were supervised by the Board of Regents of the University of New York, a remarkable and unique body in American school organization, which was authorized by the state law in 1784.<sup>2</sup> The academies were required to report every year, and the records are more complete for the academies in this state than in any other.

The leading requisites of academic reports were prescribed by law of the state. The ordinance of 1828 defined secondary subjects, but history was not included.<sup>3</sup> The ordinance of 1836 included all kinds of history, the constitutions of the United States and New York, and Grecian and Roman antiquities.<sup>4</sup>

In a table prepared for the years 1804, 1805, 1806, and 1807, the subjects reported by the academies do not contain history.<sup>5</sup> Yet the group reported as "Moral Philosophy, etc., " may have

<sup>1</sup> *Ibid.*, II, 634.

<sup>2</sup> Laws of the State of New York. Published by the Secretary of State, 1885, by Weede, Parsons & Co., Albany, 1886, Vol. I, pp. 686-90.

<sup>3</sup> Instructions from the regents of the University to the several academies subject to their visitation. Prescribing the requisites and forms of academic reports, etc., 1836, pp. 5-7.

<sup>4</sup> *Ibid.*, p. 15.

<sup>5</sup> Franklin B. Hough, *Historical and Statistical Record of the University of the State of New York, during the Century 1784-1884*, p. 421.

included history, as in all the later regents' reports history is classified under moral, intellectual, and political science.<sup>1</sup>

From Tables I and II, it may be seen that general history and the history of the United States were courses which were given in the greatest number of academies. In the first part of the period general history ranked highest, but toward the latter part history of the United States took this place. Local history was taught in a few schools for a short term but was gradually dropped. The same is true for ecclesiastical history, chronology, and biblical antiquities. Roman antiquities was taught in a greater number of schools than Greek antiquities, owing to the predominance of the Latin language over the Greek. Probably these courses in antiquities embraced Roman and Greek history. This would explain the change between the years 1874 and 1883. Mythology sprang into a strong position during this period, 1854-75, but disappeared in 1883. History of literature had a similar popularity. Constitutional study had a steady position up to 1875. In 1883 it did not appear in the list of studies. In 1882 English history was taught in ninety-five schools. The main tendency shown by these two tables seems to be a breaking away from the classical supplemented side of history and a development of the historical study of nations. This indicates that history became recognized for its own value as a study.

The following tables show the courses of history given in the academies of New York, and the number of academies giving them in the years 1836-46, 1854-55, 1865-66, 1874-75, and 1882-83.

*History in the first high schools.*—Massachusetts' high school as a type: The high-school movement was begun in 1821 by the establishing of the English Classical High School.<sup>2</sup> This represented reaction against the exclusively classical education of the Boston Public Latin School.<sup>3</sup> The aim of the early high school did not differ from that of the academy, but the high school was part of the public-school system and was free. The curriculum

<sup>1</sup> Franklin B. Hough, *op. cit.*

<sup>2</sup> Inglis, *The Rise of the High School in Massachusetts*, p. 35.

<sup>3</sup> Charles Hugh Johnston, *High School Education*, p. 64.

was made of the studies of the Latin grammar school and the academy.<sup>1</sup>

Massachusetts was the first state to establish public high schools, and the movement spread slowly to other states. The High School Society in New York established a high school in 1826,

TABLE I\*  
PERIOD 1836-46

Courses	Number of Academies										
	1836 -37	1837 -38	1838 -39	1839 -40	1840 -41	1841 -42	1842 -43	1843 -44	1844 -45	1845 -46	
General history.....	81	75	118	132	141	110	121	104	108	106	
History of the United States.....	64	54	114	92	110	101	102	104	88	93	
History of New York.....	3	2	2	1	2	1	...	...	...	...	
History of Greece.....											
History of Rome.....											
History of England.....						10	10	17	7	7	
History of France.....						2					
Ecclesiastical history.....					4	6	7	6	3	2	
Chronology.....				1	1	1	3				
Mythology.....					1			3			
Grecian antiquities.....	4	5	6	8	8	5	6	5	6	9	
Roman antiquities.....	12	10	15	16	17	18	14	13	12	14	
Biblical antiquities.....						3	2		1	2	
Constitution of United States.....	11	12	24	22	25	18	17	...	...	...	
Constitution of New York.....	3	5	11	10	6	8	8				
Laws (Constitution and Government).....								39	39	47	
History of Literature.....											

\* This table was compiled from the *Annual Reports of the Regents of the University of the State of New York*: L, 70-71; LI, 66-72; LIII, 72; LIV, 78-82; LV, 91-98; LVI, 106-13; LVII, 110-18; LVIII, 118-27; LIX, 118-28.

but the movement died out in 1831.<sup>2</sup> The Central High School in Philadelphia was opened in 1838.<sup>3</sup> The movement gained strength slowly but steadily until in 1851 eighty cities had such schools.<sup>4</sup> In 1852 sixty-four were reported in Massachusetts, and in 1856 Ohio claimed ninety-seven.<sup>5</sup> Not only was the institution itself

<sup>2</sup> Inglis, *op. cit.*, 52-53, 60.

<sup>3</sup> John E. Brown, *The American High School*, p. 28.

<sup>4</sup> E. E. Brown, *The Making of Our Middle Schools*, p. 311.

<sup>5</sup> *Ibid.*, p. 313.

<sup>5</sup> *Ibid.*

bequeathed by Massachusetts, but also the subject-matter to be studied.<sup>1</sup>

The course of study for the high school included history. Considerations respecting the character and advantages of a school for the highest grade in a system of public instruction in cities and

TABLE II\*  
YEARS 1854-55, 1865-66, 1874-75, 1882-83

Courses	Number of Academies			
	1854-55	1865-66	1874-75	1882-83
General history.....	132	105	123	120
History of United States.....	136	164	149	295
History of New York.....				
History of Greece.....				74
History of Rome.....				51
History of England.....				95
History of France.....				
Ecclesiastical history.....				
Chronology.....				
Mythology.....	50	66	46	
Grecian antiquities.....	42	41	38	
Roman antiquities.....	61	65	63	
Biblical antiquities.....				
Constitution of the United States.....				
Constitution of New York.....				
Laws (Constitution and Government).....	33	58	70	
History of literature.....		32	79	

\*This table was compiled from the *Annual Reports of the Regents*, LXIX, 297-305; LXXX, 535-39; LXXXIX, 441-50; and Franklin B. Hough, *op. cit.*, pp. 507-11.

large villages, which were presented to the public in 1838, said that the course of instruction should embrace "the history of our own state and nation, the principles of our state and national constitutions."<sup>2</sup>

In an address given on the Norwich Free Academy in the early fifties ancient history was stated to be one of the studies of the high school.<sup>3</sup>

In Massachusetts, the early curricula all show history. In the plans of the English High School in 1820 the second class was to

<sup>1</sup> Inglis, *op. cit.*, p. 156.

<sup>2</sup> Barnard, *American Journal of Education*, III, 185-86.

<sup>3</sup> *Ibid.*, II, 684.

have ancient and modern history and chronology.<sup>1</sup> In the third class, history, particularly that of the United States, was continued.<sup>2</sup> The program for 1823-24 shows a shifting of the courses. In the lowest class (third) *General History* by Tytler and *History of the United States* by Grimshaw were to be used.<sup>3</sup> The same history was continued in the second class, and chronology was placed in the first class.<sup>4</sup> In 1827 there came a change of textbooks, Goodrich's *History of the United States* replacing Grimshaw's and substituting the Constitution of the United States for *Elements of Arts and Sciences* by Blair.<sup>5</sup> In 1833 chronology was dropped.<sup>6</sup> From 1836 to 1852 the program contained general history, history of the United States (Worcester's), and the Constitution of the United States.<sup>7</sup> In 1852 history of the United States was made a requirement for admission.<sup>8</sup> In 1867 the program had only Worcester's *General History* and the Constitution of the United States.<sup>9</sup>

In the course of study for the High School for Girls in 1826, history of the United States came in the first year, general history and the history of England in the second year, and the histories of Greece and Rome in the third year.<sup>10</sup>

By the law of 1827, the history of the United States was required in high schools in towns of five hundred families and over.<sup>11</sup> This continued in force until 1857, when it was put down in the studies of the elementary school.<sup>12</sup>

By the same law general history was required in the high schools of towns of four thousand inhabitants and over.<sup>13</sup> After 1898 this became permissive.<sup>14</sup>

It is interesting to note that legislation followed after history had obtained a place in the curriculum. Even putting United States history into the elementary school came five years after the English High School required it for admission.

<sup>1</sup> *Ibid.*, XIX, 484.

<sup>2</sup> *Ibid.*

<sup>3</sup> *Ibid.*, p. 485.

<sup>4</sup> Barnard, *American Journal of Education*, II, 684.

<sup>5</sup> *Ibid.*, XIX, 485.

<sup>6</sup> *Ibid.*

<sup>7</sup> *Ibid.*

<sup>8</sup> *Ibid.*

<sup>9</sup> *Ibid.*

<sup>10</sup> Inglis, *op. cit.*, p. 138.

<sup>11</sup> *Ibid.*, pp. 138-39.

<sup>12</sup> *Ibid.*

<sup>13</sup> *Ibid.*

<sup>14</sup> *Ibid.*, p. 74.

As interest grew in the subject, the histories of special countries or special periods were introduced into the curriculum.<sup>1</sup>

Table III shows the beginnings of history in Massachusetts high schools.<sup>2</sup>

TABLE III

Subject	First Appearance in Curriculum of a High School	Number Showing Subject in High Schools by 1860-61
Ancient history.....	1821	23
Modern history.....	1821	16
United States history.....	1821	39
General history.....	1823	50
Mediaeval history.....	1855	4
English history.....	1814 (in Boston Public Latin School)	13

The course of study for the year 1867 in some of the leading high schools of the various states shows the condition of history at that time.

Connecticut included in its course of study in the high schools modern, ancient (optional), and American history, and the constitutions of the United States and Connecticut.<sup>3</sup>

In Cincinnati, Ohio, the course of study in high schools, adopted in 1867, included outlines of history in the first year, and in the second and third year history, not specifying what kind.<sup>4</sup>

In St. Louis, the general course had ancient history, history of the Roman Empire, history of the Middle Ages, and history of modern Europe.<sup>5</sup> The classical course added the Constitution of the United States.<sup>6</sup>

The Female High School of Louisville, Kentucky, gave a general history and lectures on topics connected with history.<sup>7</sup> The Male High School had governmental instructions and elements of the laws, and history of Greece and Rome.<sup>8</sup>

<sup>1</sup> Inglis, *op. cit.*, p. 139.

<sup>2</sup> *Ibid.*, p. 82.

<sup>3</sup> Barnard, *American Journal of Education*, XIX, 506.

<sup>4</sup> *Ibid.*, p. 532.

<sup>6</sup> *Ibid.*

<sup>5</sup> *Ibid.*, pp. 535-36.

<sup>7</sup> *Ibid.*, p. 542.

<sup>8</sup> *Ibid.*, p. 550.

In Philadelphia, the High School for Girls gave English history and ancient and modern history.<sup>1</sup> The Central High School for Boys reported no history.<sup>2</sup>

In Chicago, universal history and the Constitution of the United States were given.<sup>3</sup>

These courses parallel one another closely, showing that the same conditions in history study existed generally.

Thus from the beginning history held an assured place in the curriculum of the high school, not only in connection with the study of the classics, but as a definite study. Generally history and the history of the United States were the courses given in the greatest number of high schools. This was also true of history in the academies.

*The reformation of history teaching in the secondary schools.*—The curriculum of the secondary schools has been formed by many influences. The aim of the academy and high school was to give a broad, liberal, and practical education to the children of the middle class. Therefore the curriculum had to be filled with studies which would appeal to many. In this way a heterogeneous curriculum was accumulated.

History under these conditions was neglected, and it is within the past two decades that serious attention has been given to the planning of adequate courses in history.<sup>4</sup> A letter from the Commissioner of Education to the Secretary of the Interior in 1887 makes this condition clear:<sup>5</sup>

In December, 1885, a circular letter was issued from this office inquiring into the present condition of historical studies, not only in colleges and universities, but also in high schools, normal schools, institutes, academies, etc. The returns, while extensive, were on the whole unsatisfactory. In a few instances there were encouraging signs of good work in both higher and secondary training, but the general results indicated a serious absence of proper historical instruction in all grades of American education. . . . The question of secondary education in history demands special treatment and a study of the best methods now in use in the German gymnasia, the French lycée, and the English public schools.

<sup>1</sup> *Ibid.*, p. 549.

<sup>2</sup> *Ibid.*

<sup>3</sup> *Ibid.*

<sup>4</sup> Henry A. Bourne, *The Teaching of History and Civics in the Elementary and Secondary Schools*, 1905, p. 56.

<sup>5</sup> Herbert B. Adams, *The Study of History in American Colleges and Universities*, 1887, p. 9.

The campaign was begun by the National Education Association in 1892 by the appointment of a committee of ten made up of eminent educators to consider the problem of education in the secondary schools.<sup>1</sup> The campaign was along two lines; first, the place history should have in the curriculum, the sequence of course, and the method; second, the adjustment of college-entrance requirements in history to the secondary courses.<sup>2</sup>

While the work of the Committee of Ten did not revolutionize history teaching, yet the discussion it aroused led to a "definite impetus" being given to the study, and has been a great influence.<sup>3</sup>

The American Historical Association carried on the work, and appointed in December, 1896, a committee of seven. This committee worked especially on the subject of history, and its task was to "discover the actual situation, to see what was being done, and what was the prevailing sentiment, then to seek to give expression in a report that would be helpful and suggestive, and that would be of service in widening the field."<sup>4</sup>

This committee began by sending a carefully prepared list of questions to three hundred secondary schools which would reflect the conditions in the whole country. Out of this number two hundred and ten answered sufficiently well to show the actual conditions.<sup>5</sup>

The returns showed that there was much diversity in the amount of the history offered, the fields studied, and the order in which they were taken up; but there was one marked approach to uniformity. The old note system was being gradually dropped, owing to the influence of the Committee of Ten.<sup>6</sup>

The other conditions which the returns showed were that English and American history were being taught in more than one-half the schools, general history in almost exactly half, Greek and Roman in about one-half, and European history in about one-

<sup>1</sup> E. E. Brown, *op. cit.*, 381.

<sup>2</sup> H. A. Bourne, *Teaching of History and Civics*, p. 60.

<sup>3</sup> C. H. Johnston, *High School Education*, 1912, p. 292.

<sup>4</sup> E. E. Brown, *op. cit.*, p. 384.

<sup>5</sup> Report of the Committee of Seven, p. 4.

<sup>6</sup> *Ibid.*, p. 7.

third, mediaeval, modern, and French history being about equally common. In a very few schools, the history of the state was a subject.<sup>1</sup> Regarding general history, which in most cases was a general survey based on one textbook, with little or no collateral reading or illustrative work, the Middle states gave the greatest number of courses while in New England the sentiment was against such a course.<sup>2</sup>

Four systems of order were followed: about one-third followed chronological method, taking up in succession ancient history, general history, and modern history, usually English or American or both; one-seventh began with the survey of the whole field, then more detailed study of the ancient, then the modern; one-fifth began with American, sometimes English, then general, and then ancient, this being convenient for college examinations; more than one-fourth began with American, followed with ancient, and ended with general.<sup>3</sup>

Very few schools required much collateral reading, and the use of sources did not have much hold, although written work was well established.<sup>4</sup> One recommendation from the committees was that there should be continuity of historical study. To achieve this four fields were blocked off: (1) ancient history, which should embrace the early nations, Greek, Roman, and the early Middle Ages; (2) mediaeval and modern European history up to the present time; (3) English, and (4) American and civil government.<sup>5</sup>

No short courses in general history were recommended because no method could be used, which would be either sound or reasonable.<sup>6</sup>

Another important recommendation was for entrance requirements. The classical course offered one unit of the four fields, preferably ancient history, the Latin course the same, the scientific two units, and the English three.<sup>7</sup>

This report has been the great influence in shaping history teaching.<sup>8</sup> Other associations for the advancement of history

<sup>1</sup> *Ibid.*, p. 139.

<sup>2</sup> *Ibid.*, pp. 140-41.

<sup>3</sup> *Ibid.*, p. 128.

<sup>4</sup> *Ibid.*, p. 140.

<sup>5</sup> *Ibid.*, p. 145.

<sup>6</sup> *Ibid.*, pp. 44-45.

<sup>7</sup> C. H. Johnston, *High School Education*, p. 292.

<sup>8</sup> The New England Teachers' Association, Association of Teachers of Histories of the Middle States and Maryland, and the North Central History Teachers' Association.

teaching have been formed and are carrying on the work.<sup>1</sup> There have come to be three recognized methods of teaching history: (1) the sources; (2) the topical; (3) the use of a narrative textbook supplemented by assigned readings in both source and secondary material.<sup>2</sup> A great change has come in the textbooks of history. Instead of the dry, lifeless political arrangement, the social life of the people, the customs, the economic and industrial side have come to hold just as important a place. This is called the humanizing of the textbook.<sup>3</sup>

From all this advancement and awakening history teaching, while not perfected, has a hopeful outlook. History now holds a position of importance in the curriculum.<sup>4</sup> Its value as a study is being appreciated, not only from a knowledge standpoint, but from the cultivation of a mental attitude which gives the student the power of critical observation and judgment.<sup>5</sup>

The cause which lies back of this movement is found in the life of the nation.

America has become a world power. The immigration of many foreigners has helped to make the history of the world national to the American people. The advent, also, of a foreign population has served to make the teaching of American history necessary for the incorporation of these peoples into the traditions and principles of American life. The great anti-slavery struggle and the Civil War helped to make history vital to the thoughts of men.<sup>6</sup>

#### VI. GENERAL SUMMARY

From data presented in the preceding pages, the following conclusions have been reached:

History became a secondary subject from three causes in the latter part of the sixteenth and the beginning of the seventeenth centuries: first, there were noted headmasters of English secondary schools who were historians; secondly, there were a few textbooks written for use in the secondary schools; and thirdly, larger histories were epitomized.

<sup>1</sup> C. H. Johnston, *op. cit.*, pp. 295-96.

<sup>2</sup> Charles F. Thwing, *A History of Education in the United States since the Civil War*, 1910, pp. 166-67.

<sup>3</sup> *Ibid.*, pp. 86-87.

<sup>4</sup> *Ibid.*

<sup>5</sup> *Ibid.*, p. 87.

<sup>6</sup> *Ibid.*, p. 65.

The condition of history in the early schools of England which the first American settlers attended was poor. Educational writers were realizing this, and were advocating the study of it. The early textbooks were hodgepodes of historical information and facts, and the general method as indicated by them was question and answer.

In colonial times, a small number of schools, and these were among the private schools, offered a variety of historical courses. Benjamin Franklin stands out pre-eminently because of his educational writings, in which he advocates historical study.

In the Boston Public Latin School, history from 1784 to 1862 was of a classical nature. Throughout the century most of the courses in history were of some form of ancient history. In 1870 a chronological sequence of history was obtained. In 1883 the study of history was of Greece and Rome with collateral reading of Plutarch's Lives and correlative work in English through reading the history of the United States and England.

In the other early schools from 1784 to 1830, no definite conclusions as to the nature of history can be drawn on account of the vague word, "history," being used in eleven courses. Antiquities, chronology, and ancient history come next with six, five, and three courses respectively. The other courses given were modern, general, ecclesiastical, Roman, elements, mythology, and United States. This shows variety but not definite order of history training. Grouping the histories pertaining to the classics, and not counting chronology, eleven courses were given. This is an indication of the supplementary place that history had in relation to the Greek and Latin languages.

In the New York academies of a later period, 1836-46, general and United States history held the highest rank with the antiquities, and Roman and Greek history came next. State recognition of history as a secondary subject did not come until 1830, when almost all academies were giving at least one course in history.

With the beginning of the high-school movement in 1821 history had an assured place in the curriculum. By the law of 1827 in Massachusetts, United States and general history were made

required subjects. This made their position only stronger. Ancient history, as in the academies, came next.

No chronological order of history courses was developed except in the cases of the Boston Public Latin School and St. Louis. St. Louis in 1867 had progressed from ancient history, history of the Roman Empire, history of the Middle Ages, to the history of modern Europe.

The reason why general history held such a high place was that it was supposed to make a background of general information in which to fit other historical knowledge as it touched the history of the United States. Its purpose was merely to give knowledge of our own country in respect to patriotism and good citizenship. The study of ancient history came through a desire to supplement the classics and from the college-entrance requirements.

The usual method was simply the application of memory to facts. Collateral reading and correlative work, except in the blind way ancient history was applied to Latin and Greek, did not come until the latter part of the nineteenth century.

The numerous textbooks which were prepared in the early twenties of the century are another proof that history had an established place in the curriculum of the secondary school.

In the eighties of the preceding century, dissatisfaction arose with the condition of historical study in our schools. This culminated in the appointing of two committees, the Committee of Ten and the Committee of Seven. Through their work, history has been recognized, so that now the teaching of history has been put on a scientific basis, and the outlook is bright.

REPORT OF THE TWENTY-SIXTH EDUCATIONAL CONFERENCE OF THE SECONDARY SCHOOLS IN RELATIONS WITH THE UNIVERSITY OF CHICAGO—  
*Concluded*

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NATHANIEL BUTLER  
University of Chicago

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*Manual Arts—*

Chairman, CHARLES A. BENNETT, Bradley Polytechnic Institute, Peoria, Illinois.

Secretary, N. F. FULTZ, Anderson (Indiana) High School.

Attendance, 116.

Schools of Illinois, Indiana, and Wisconsin were represented at the meeting. The program centered around the recent literature of the several phases of manual arts. The program as printed was carried out in full with the exception of the talk by Mr. William H. Roberts, director of vocational education, Chicago Public Schools.

"Courses of Study and Methods in Manual Arts" was discussed by Mr. A. G. Bowersfeld, Lane Technical High School. His discussion was a survey of the present-day development of the manual-arts movement, the divisions of the work according to modern conceptions, and methods of teaching. A brief outline of the history of the movement in this country and the resulting elements now found in the work was given as a major part of the address.

Mr. Bowersfeld divided the manual-arts work of today into five general divisions, namely, Manual Training, Pre-Vocational, Vocational, Trade, and Supplementary Art. Under the latter the continuation, co-operative, corporation, night, and apprentice public schools were classified.

The attention of the meeting was called to the work of the Illinois Manual Arts Association in organizing detailed courses of study in many of the above-named divisions. The first edition of these courses has been exhausted, but a second edition will come from the press some time this year.

During the discussion of methods of instruction Mr. Bowersfeld said: "The manufacturer has proved to be a hard man to please. All previous methods are decried as wasteful and inefficient. Manual-arts teachers have been carried off their feet by a whirlwind of criticism and fault-finding of the business men. Even among school men we are depicted as running around in a circle and not accomplishing anything progressive. We are charged with fashioning our doctrines to suit the caprice of the hour, and each year changing our course to another point of view. However, I do not believe that we are

traveling in the same circle, but rather we are traveling in concentric circles with the pupil as the center and each succeeding circle typifying problems brought on by an advancing civilization."

The following books were listed as having materially contributed to the present-day manual arts: *Industrial Education*, by Albert Leak; *The Problem of Vocational Education*, by David Snedden; *The Worker and the State*, by Arthur Dean; *Education for Efficiency*, by E. Davenport; *Education for Citizenship*, by George Kerchensteiner; *Examples of Industrial Education*, by Frank Leavitt; *Vocational Guidance of Youth*, by Meyer Bloomfield; *Choosing a Vocation*, by Frank Parsons; *Vocations for Girls*, by E. W. Weaver; *Vocational and Moral Guidance*, by Jesse Davis.

The subject of "Vocational Guidance" was discussed by Mr. Jesse B. Davis, vocational director, Grand Rapids, Michigan. The address covered five important topics of consideration in the study of vocational guidance, namely, the definition, the function, placement, literature, and recent publications.

Mr. Davis prefaced his remarks by pointing out that the movement from a public-school standpoint was new, that much of that was in an experimental stage. "Even a definition of it," said he, "is a matter I shall have to hold in abeyance. I have my ideas of what a vocation is, which, by the way, is not holding down a job. It is not an occupation. It is measured by your service to humanity; service by doing the thing that you can do best. It must of necessity be the thing that interests and holds. To take the boy or girl who is drifting or floundering, and a misfit in the community, and help him to find himself—that is vocational guidance."

It was pointed out that the movement began in a systematic way with the work of Professor Frank Parsons, *Choosing a Vocation*. Before that time it was along the line of social work without any attempt at connecting it to the public school.

"The function of vocational guidance in the schools," said Mr. Davis in part, "centers around the idea of directing in the selection of subjects in the school course, counseling in the selection of a vocation, establishing and operating an employment bureau, and maintaining a system of 'follow up.'" After a boy leaves school, the school should know of him definitely until he is eighteen or twenty years of age. Before any boy leaves school he should have found himself, and there is no greater factor in the schools to help him to that one thing than manual training. It is a great mistake for young men to try to enter a vocation for which they are unfit. Educators should help them to find out. It is possible for them to know whether they are fitted both mentally and physically before they leave school. It therefore becomes, on the part of the educator, a kind of child-study.

"There is little psychology on the subject worth while. You will find that your own experiences as you proceed will be more valuable than anything in that line. I believe the most critical time in the boy's life is from fourteen to sixteen. It then follows that the time for self-discovery should be greatest

in the seventh and eighth grades. At that period, your manual training must be for a longer time every day and not once a week for perhaps sixty or seventy minutes.

"One of the greatest needs for vocational guidance is the knowledge of the vocations. They are so constantly changing and developing that a study of them is most difficult. I try to have two or three reliable men from each trade to whom I may send a boy when he asks me for critical advice as to the choice of a vocation. There are not a great many books that are of value. Greatest among them is the one by Meyer Bloomfield, *The Vocational Guidance of Youth*."

Here Mr. Davis gave a short discussion of Mr. Bloomfield's most recent writing, government bulletin, *The School and the Start in Life*. Mention was also made, largely unfavorable, of the recent book on the subject by Mr. J. F. Puffer.

Mr. H. M. Appleman, director of manual arts, South Bend (Indiana) High School, gave an address on "The Contribution of Educational Psychology to the Teaching of the Manual Arts."

His opening remark is significant. He said: "The material is so extensive and so unorganized and unrelated that as yet it offers no thoroughgoing and well-digested body of facts from which to draw final and unequivocal conclusions in regard to the problems that arise in connection with the schoolroom. There are many important hints, a few definitely established principles to guide the teacher, but there is much that is contradictory and uncertain in its application."

The following were listed as helpful: "The Practical Results of Recent Studies in Educational Psychology," by Colvin, *School Review*, May, 1913; "The Practical Arts in Liberal Education," by Snedden, *Educational Review*, April, 1912; "Teaching What the Twentieth Century Wants," by Lane, *Survey*, March 22, 1913; *A Brief Course in the Teaching Process*, chaps. i, iv, xii, by Strayer; *Genetic Psychology*, chaps. iii, iv, by Judd; "The Place of Manual Arts," by Bennett, *School Review*, October, 1911.

The aims of teaching, drill as a means to those aims, the drill habit formation, and new conceptions were discussed by the speaker, his statements being based on his study of the above-named books and papers.

#### *Mathematics—*

Chairman, RALEIGH SCHORLING, University High School.

Secretary, GERTRUDE L. ANTHONY, Wheaton (Illinois) High School.

Attendance, 115.

The program of reviews of recent mathematical literature pertaining to secondary schools was opened by Mr. H. V. Church, principal of the J. Sterling Morton High School, Clyde, Illinois, with the article by Superintendent Henry C. Morrison of New Hampshire, "Reconstructed Mathematics," published in the *Thirteenth Yearbook of the National Society for the Study of Education*.

*tion.* In introducing Mr. Church, Mr. Schorling said that it was most fitting that an article relating to the administration of secondary schools, written by an administrator, should be reviewed, as well, by an administrator.

The author of the article, Mr. Church declared briefly, in advocating that the teaching in the high school of algebra, geometry, and trigonometry be abandoned, since their only immediate purpose is preparation for college mathematics, and that secondary mathematics as needed in manual training or in domestic science or in bookkeeping be taught by the instructor in that department is iconoclastic. Such a heterodox move would lead to the elimination of the mathematics faculty in secondary schools.

Unfortunately, Mr. Ernest Stirwalt of the Fort Wayne (Indiana) High School was ill and so was unable to present his paper on "Home Study."

"Supervised Study," an article by Mr. E. R. Breslich of the Department of Mathematics of the University High School, also published in the *Thirteenth Yearbook of the National Society for the Study of Education*, was reviewed by Mr. C. M. Austin of the Oak Park High School. The article, according to Mr. Austin's résumé, deals with the attempts to remedy the failure in the class method of teaching. Though the Pueblo plan develops independent, self-reliant students, it fails to recognize the school as a social institution. The Batavia plan is too costly in its requirement of two teachers. The University High School has a daily study class after school under the supervision of one of the instructors in the department. This study class, however, is intended for only those students who are falling below grade. The double period in use in the Joliet High School, one period for recitation and the one following for preparation of the next day's lesson under the teacher's supervision, and modifications of that plan, such as the division of the single recitation period in the University of Missouri High School, and in Oakland City, Indiana, the study-hall schedule for the supervision by the instructor in charge, are all designed to give the pupil that valuable assistance—supervised study.

That supervised study is of value Mr. Breslich goes on to prove by statistics drawn from two classes doing the same work, presented in the same manner, with the exception that the one class was supervised in its study, the other, unsupervised. The former class was at the beginning a somewhat weaker one. Yet at the end of two weeks its general average was higher than that of the unsupervised class. At the end of four weeks the difference was still more pronounced. The results of the trial seemed to prove conclusively the value of supervised study for all pupils. Absent ones catch up the more quickly; right habits of thinking are inculcated; a method of attack is given to the student. At least the first- and second-year classes in the high school need this help.

In the discussion which followed the interest was centered on this question of supervised study, and especially on the experiment of the Joliet High School, as presented by Mr. L. P. Irvin of the Department of Mathematics. The first half of the double period is devoted to recitation; the second half, after

three minutes' recreation, to study, after which the work is handed in. This second period may also be used for the presentation of a new topic, or for any explanation that becomes necessary. The instructor is the judge of the amount and kind of help given during the period. The pupil is taught to concentrate, since the reward of a completed lesson is no home study.

This plan, first pursued in the first half-year of algebra and the first half-year of geometry, proved so successful that the teachers asked for its continuance. The percentage of failure in the first two years was reduced from 28 or 30 per cent to below 18 per cent, and has since been reduced to almost 12 per cent. The later work of these students also has been stronger.

The plan has been followed also in the language work, except English, in science, in manual training, and in the domestic-science work. Though the students come from families of working people, Mr. Irvin thinks the situation in Joliet has no peculiarity which would make the experiment especially successful in that locality. Few high-school pupils, he says, have a quiet place at home for study.

Mr. Breslich, in reply to Dr. Slaught's question how he accounted for the sudden tremendous increase in his supervised class's average, explained that the slow pupils, who contribute most largely to a low class average, are the first to benefit by supervision. Those who have been absent catch up more quickly. The result is a sudden rise in the average.

Continuing the program, Mr. H. C. Wright of the Department of Mathematics of the University High School presented *The Mathematics Teacher* to this section of the Conference. Published by the Association of Teachers of Mathematics for the Middle States and Maryland, it has appeared quarterly during the last six years. For this time Mr. Wright had prepared and presented a most interesting partial list of contents.

The list is so arranged that "1" in each volume gives the titles of articles on geometry; "2," on algebra; and "3" and "4" on allied subjects. As Mr. Wright said, this is the only publication in English devoted to mathematics in the secondary schools. In its six years, moreover, it has considered every subject discussed in the mathematics departments of secondary schools. The one exception to this statement is correlated mathematics.

Professor Slaught of the University of Chicago presented the *American Mathematical Monthly* to teachers of mathematics as "out of the routine." Teachers, he said, to increase their enthusiasm need contact with just such books and magazines. Though there may be some articles that are beyond the average teacher's preparation, yet a fair proportion will appeal to them at once; and the other articles offer an opportunity for growth. Those who confine their reading to secondary subjects are likely to get into a rut. Such an article as the "Number Systems of the North American Indians" would prove interesting to everyone. The mathematical explanation of the curve of light on the dome of the Catholic Cathedral in St. Louis, if not now understood, would form a goal toward which secondary mathematics teachers could

work. The magazine furnishes a mental stimulus and a field of study outside of the routine of secondary mathematics.

After Professor Slaught's talk the meeting adjourned to examine the interesting exhibit of work from the Department of Mathematics of the University High School.

The chairman expressed the hope of another exhibit at next year's Conference in which other secondary schools besides the University High School were to be represented. Any school desiring to exhibit work done by its pupils in mathematics may send it at any time during the year to Mr. W. R. Reeve, The University of Chicago High School, Chicago.

*Physical Education—*

Chairman, A. A. STAGG, University of Chicago.

Secretary, ELIZABETH JOHNSTON, University High School.

Attendance, 20.

The following topics were considered: "The Place and Manner of Hygiene Instruction in High Schools"; "What Should Be Its Relation to the Physical Education Department?" "By Whom Should It Be Taught?" "During What Years?"

The following is a summary of a paper by Dr. Winfield Scott Hall of Northwestern University, read by Dr. Dudley B. Reed of the University of Chicago:

The school, being an extension of the home, provided by the state for the purpose of equipping future generations to become citizens, stands today for "education for efficiency" as against the ideal of our grandfathers, "education for culture." Modern education presupposes soundness of body as a basis for a sound mentality.

The school hygiene of modern pedagogy presents two phases, practice and instruction. The former should predominate in the elementary schools.

During the impressionable years, from six to fourteen, the atmosphere about the school buildings should be one exemplifying conditions as nearly perfect as possible hygienically. The actual teaching through example would be most effective.

In the high school there should be added to the conscientious observance of the rules of hygiene a systematic presentation of the laws of hygiene, explaining all of these laws in terms of anatomy and physiology. The customary method of teaching hygiene in high schools as a required first-year course occupying one half-year only and involving little or no laboratory work and by ill prepared teachers is of very doubtful value.

Adequate preparation of a class for study of hygiene would be a previous experimental study of physiology, accompanied or preceded by a laboratory study of living forms.

The writer would make elementary biology a required course for all high-school students. It should come in the first year so as to do greatest good to

greatest number and should be as untechnical and as interesting and practical as possible. The work of the second half-year should be given in the biological laboratory by the teacher of biology.

The class should take up the human subject, going not too technically into the anatomy, and emphasizing facts essential to understanding of anatomy.

Each functional system of the body should be studied separately, first as to general anatomy, second as to function, and third as to hygiene. The subject of nutrition is so important that it might well make at least one-third of the whole course. After the anatomy and physiology of the digestive system have been got well in hand by the class, the discussion of the care of this system should be undertaken.

In studying the hygiene of each system of organs, the positive hygiene phase and the negative hygiene phase should be differentiated. Under negative hygiene those conditions which are unnatural and unwholesome should be pointed out and avoided. Positive hygiene should both precede and follow negative hygiene. The final impression on the mind of the pupil should be the ideal and constructive.

Physical education is education for physical well-being and physical efficiency, and is therefore very closely connected with hygiene. So far as physical education involves the systematic development of physical efficiency and maintenance of physical health just so far must the department of physical education deal in hygiene.

The teacher or director of physical education should be thoroughly equipped in the field of anatomy, physiology, and hygiene. The rules of posture and carriage, muscular exercise, breathing, ventilation, care of the skin, and bathing, clothing, perhaps even choice of foods, sleep, etc., may well be introduced as incident to and a part of the work in the gymnasium.

Sometime during the last three years of the high-school course there will be offered opportunity for the presentation of certain great fundamental truths of life which may be much better presented by a man to young men and by a woman to young women than could possibly be done to a mixed class by a teacher ever so wise.

Teachers who themselves possess high ideals of life and of social relationships, of family, and of the race, ought surely to be able to present these relationships to young people who are so soon to begin their home-building, in a way that shall be at once welcomed and utilized.

The following is a summary of a talk given by Miss Lillian H. Bruce of Chicago Normal College, Miss Bruce not having prepared a formal paper:

First, all teachers of hygiene and of the study of hygiene for high schools must have a basis of anatomy and physiology. Knowledge of the structure of the body should not be excluded from high schools. Papers written by teachers in the Normal Entrance Examinations show a great lack of knowledge of anatomy and physiology on the part of those who become teachers.

These persons have had hygiene instruction in the first and second semesters in the high-school course and little or no equipment. It is more and more evident that hygiene should have a place in high school. Questions have been sent out to high-school teachers asking if there should be a change in the time of studying hygiene.

Second, there is a greater aspect to hygiene than its mental side. It must be translated into permanent health habits. In a recent article by Dr. Richards of Philadelphia he says that there has been too much physiology in our schools and not enough hygiene. Rather than to give the students so much structural facts it would be better to tell them why milk is a good food and why certain shoes are good shoes. The question arises, How are you going to answer these questions unless you know the structure of the stomach and of the foot? The answer is that we do not mean to minimize any of these facts. There must be a foundation of anatomy and physiology, but there must be a choice between essential details and the application of hygienic theory.

The latest attempts to bring about efficiency methods have taken this fact of the practical side of hygiene into consideration primarily. Dr. Thomas Story of the College of the City of New York shows how his medical inspection of students justifies this method. It shows how to repair physical defects. The physiological efficiency of boys is increased by this method of medical inspection and it brings about the support of the parents of the boys. He feels that parent support is essential to teaching hygiene.

The matter of posture has received considerable attention in the Chicago and New York schools. Pupils are not given grades in their courses until they satisfy the requirements along this line.

Who should teach hygiene? There is little difference whether it is taught by the physical education department, science department, or by outside lecturers, except that it is often true that outside lecturers do not have the missionary spirit and there is no personal contact. The department of physical education is the place where the students naturally come for special advice regarding the health. If the teaching of hygiene were put in the physical education department there would be a saving of time and expense.

The teaching of hygiene will always be more successful where there is a basis of anatomy and physiology. Physical directors are ordinarily trained in these subjects and should have the teaching of them.

Dr. W. J. Monilaw of the University High School presented the following propositions for discussion:

1. The student should be taught that a thorough knowledge of his own physical being is natural, is normal, and is essential to his well-being; that it is only through such knowledge that he will be able successfully to combat many conditions of the present day; that nature cannot be depended upon to do all of the work; that father and mother or even the family physician will not always suffice.
2. Instruction in hygiene should be scientific; must be founded upon facts; must not contain misstatements.

3. Instruction in hygiene should be positive and instructive in character. It should be more concerned with making the attractiveness and advantages of a wholesome, healthy life than with portraying the repulsiveness and dangers of disease. This is particularly true of instruction in sex hygiene.

4. Instruction in general hygiene may be given any time in the life of the high-school student, but the sooner it is given the better all around. The time of instruction in sex hygiene should be governed to some extent by the physical development of the student. Of course it is possible to teach sex hygiene long before adolescence and to teach it quite properly from infancy, but during adolescence a new type of instruction will be found necessary. In general, the teaching must be adapted to the life-period of those taught. Each of the periods of childhood, youth, and adolescence has its own problems.

5. Hygiene instruction, particularly sex instruction, should not be given unrelated, but should be closely related to such broader subjects as biology, physiology, psychology, sociology, eugenics, and others. It would seem well to have the courses in hygiene dovetail in with courses in at least some of these other subjects, or these other things should be brought into the hygiene field of instruction.

6. Hygiene is such a real and personal thing that it is well that the instructor in hygiene have certain qualities which will impress the student from the start. The student must have faith in the teacher, must respect the teacher. This seems more true of this subject than of any other, with the possible exception of religion. The teacher of hygiene must practice what he preaches.

7. Undue prominence should not be given the subject. The student should feel as free and unconcerned about going to the class in hygiene as to that in mathematics, English, or Latin. The subject should not be treated as something special or something extraordinary.

8. Co-operation of parents and of the home is essential.

Mr. Griggs participated in the discussion as follows: Educators of the past have not realized the worth of physical education. They are coming more and more to realize its worth. It seems to have been the opinion of public-school boards that physical education is nothing more than coaching of football, etc., and they do not like to spend their money for that purpose. One of the difficulties in getting physical education before the people is that physical educators have not appreciated the importance of their work and the importance of living the things they teach to their pupils. Upon investigation and inquiry it is found that candidates for positions do not profess to live the things that they talk about to their pupils. We should live the things which we preach if we wish to do much with the boys and girls. The instructors have not been properly trained themselves. It is too true that football men and athletes look too much to the time when they are to break training, when they expect to throw off all restraint as to training and hygienic habits. When they break training all that has been done by their training is undone. This effect comes from our colleges because our physical trainers come from the

colleges. We shall not do all that we ought to do on the side of physical work until we get men and women who can exemplify. The physical director has power with boys and girls, and because of this power he ought to be best fitted to teach these boys and girls.

Mr. Noughton participated in the discussion as follows: Hygiene is not taught by the physical directors in the high schools of Chicago. It is being taught by lecturers. Two lectures were given in sex hygiene to first- and second-year boys and girls, but the Board of Education has stopped it for the time being.

Mr. Steffens spoke as follows: I think that physical directors cater too much to building up teams and thus to breaking down the conventions of hygiene. Boys and girls should not be permitted to compete against each other in high-school basket-ball. Teachers should inform pupils on the general principles of anatomy and physiology, and then they should try to make practical use of these teachings at every opportunity. Instructors are close enough to the boys to speak to them on any subject if the teacher is of the proper character himself.

Miss Giles of the J. Sterling Morton High School has her pupils every day in the week in the gymnasium for forty-five minutes and an opportunity is thus given to talk to them on hygiene, and to get acquainted with them. The physical examination of new pupils at the beginning of each term also gives opportunity for more hints on hygiene, also in addition at least one hygiene class which meets once a week when practical questions are brought up. Physiology has been discontinued, but hygiene has not. Miss Giles says that all of the physical educators of her acquaintance live up to the ideals of their calling.

Mr. Steffens added: Speaking of the subject of posture, there is a great deal to be acquired and a great deal to be learned. A great deal has been neglected, in most cases from infancy. By the time the pupils reach high school it is a difficult problem to reform them. The skeleton is already in a certain state of formation and the teachers can only advise in a general way. Men with ideal physiques can be pointed out to the pupils, but there are only a few ideal men to be shown to them. If a great celebrity who has a good posture can be pointed out to them it has a wonderful effect for good. Parents' clubs and parents in the home can, if they will, lay a good foundation for the teaching of lessons in proper posture.

Mr. Stagg announced that as Miss Bruce indicated there is now a national society organized for the purpose of creating a national interest in the subject of proper posture.

Mr. Overn, a student in the graduate departments of the University of Chicago, said that in South Dakota there is a medical society in the state which is working to bring about medical inspection. He said that there is practically no such thing as medical examination in country schools.

Dr. Reed of the University of Chicago closed the discussion.

*Public Speaking—*

Chairman, S. H. CLARK, University of Chicago.

Secretary, B. G. NELSON, University of Chicago.

In the public-speaking contests there were 15 teams of two each representing 15 schools in the contests in extempore speaking. The first place was awarded to the University High School, Chicago, represented by Constance McLaughlin and Thomas Hefferan.

The prize (a year's scholarship) for the best individual speaker was won by Louis Balsam of the McKinley (Chicago) High School.

The contest in reading marked a radical departure from the usual method of conducting such contests. The purpose of the Department of Public Speaking in this contest was to encourage high schools to lay greater stress than they now do on simple, direct, natural vocal interpretation of poetry. Hence there were no cut-and-dried declamations, but each contestant in the Preliminaries was assigned a fairly easy passage of about 100 lines from one of the *Idylls of the King*, and allowed an hour for preparation. From the 23 contestants 5 were chosen for the Finals. The material used for these was "Geraint and Enid," divided into 5 nearly equal sections, and for the preparation of which 90 minutes was allowed. The winner of the one-year scholarship prize was Gertrude Benner of the Senn (Chicago) High School.

It seemed to be the consensus of opinion of the judges and teachers of English who were present that the reading was far below the standard to be expected of Senior-year high-school students; but it was agreed that, because of that very shortcoming, this kind of contest should be continued in order to arouse a greater interest in the vocal interpretation of literature, and because it is hoped that the contest will lead to laying less stress on the showy declamatory side of elocution and far more on the simple reading aloud of literature.

The Prize Scholarship Examinations under the direction of the University Examiner were held Friday afternoon in American history, botany, English, French, German, Latin, mathematics, and physics. To these examinations only students from the current Senior classes of co-operating high schools were

	Girls	Boys	Total
American history.....	18	19	37
Botany.....	7	4	11
English.....	32	7	39
French.....	16	1	17
German.....	41	16	57
Latin.....	34	9	43
Mathematics.....	7	30	37
Physics.....	2	18	20
	157	104	261

admitted. To the winner of each examination is awarded a scholarship in the University of Chicago amounting to full tuition for the next college year. The Examiner reports that 261 students participated in the examinations were as shown in table on p. 537.

The Administrative Section in session Saturday afternoon discussed two general topics. The first was the possibility of encouraging high scholarship by giving more credit for courses completed with a high grade than for courses in which the student barely passes or secures a low grade. Professor Judd, speaking in terms of the findings of a committee of the University which is canvassing this matter, reported the practices of several high schools and higher institutions which are experimenting with systems of greater quantitative credit for high-grade work. He also called attention to the fact that the large number of units required for graduation from high school and admission to college tends to scatter the interests of high-school students over many subjects and endangers scholarship in each subject. The general discussion of this problem seemed to indicate that many high-school officers are favorable to the proposal that excess credit be given for high grades.

The second topic was presented by Principal J. S. Brown of the Joliet High School in terms of the practices of that school. The question, Can high schools give the work which is now commonly administered in the first years of the college course? is answered in the affirmative in the experience of the Joliet school. Mr. Brown described the way in which these advanced courses are administered and pointed out the advantages to the students and to the community of such courses in the public high school.

The general discussion indicated that several school officers saw a danger in the proposal to carry on college work in the high school, in that teachers would be distracted from the work appropriate to the lower classes and because the cost of advanced work would be looked upon by the community as excessive.

The Annual Conference is arranged under the joint direction of (1) The Standing Committee on Relations of the University with Secondary Schools, and (2) The Committee on Program. These committees, for 1914-15, are constituted as follows: (1) The

President of the University, ex officio, the Dean of the Faculties, ex officio, the Director of Co-operation with Secondary Schools, ex officio, Nathaniel Butler, chairman, C. P. Briggs, J. Stanley Brown, Franklin W. Johnson, Charles H. Judd, H. B. Loomis, C. R. Mann, F. J. Miller, S. C. Parker, H. E. Slaught, M. H. Stuart, F. D. Thompson, W. L. Carr, secretary; (2) Principal Spencer R. Smith, chairman, Algernon Coleman, Charles H. Judd, Miss Elsie Sawyer, Julius Stieglitz, M. H. Stuart.

## FIRST-YEAR LATIN AND FIRST-YEAR GERMAN

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When Mr. Senger's article "A Comparison of the First-Year Courses in Latin and German" (May number of the *School Review*) was brought to my attention, my first thought was: "Well, no one but a teacher of the classics would have tried to make such a comparison, for only a teacher of Latin or Greek would hold to the opinion that learning a language is learning a certain number of facts." The modern teacher of modern languages realizes that teaching a language is not synonymous with drilling a certain number of facts into a pupil's head, although that is a well-defined part of the process. I presume there is some justice in Mr. Senger's comparison, but one will have to bear in mind throughout that oral work plays a much greater part in modern-language instruction than in the Latin or Greek class. We may compare the grammar work done in the German class with the grammar work of the Latin class, but we must at the same time be fully conscious of the fact that, whereas the instruction in grammar and the reading and translation of a text constitute the entire work of a Latin class, in a German class these are regarded merely as the foundation on which is to be built up a feeling for German and the ability to use simple German in the classroom in preparation for a fuller and more extended actual practical use of German in the following years.

Another fact to be borne in mind when one is reading the conclusions reached in the article is that one cannot conclude that more facts *are* actually learned in one language than in another even though there be more *to be learned*. In fact, if we consider the mentality of the pupil as a constant, it would stand to reason that the pupil learns as much in one five-hour course as in another, presupposing the teachers of equal power and skill, as we shall have to do in such a general case; or we might say, the greater the amount

of facts to be learned, the hazier will each individual fact be in the mind of the learner; or, in other words, if Latin has more facts to present, then the German will be learned more thoroughly. And that I believe is the case. The fewer facts which the modern-language course wisely offers the beginner can be mastered and put to actual use in speech in the foreign tongue.

So much by way of preface to establish a standpoint. But the German course is not so much easier than the Latin as Mr. Senger would have us believe, for I would call attention to the fact that Mr. Senger considers only the first twenty lessons in Kayser and Monteizer's (Monteser's?) *Foundations of German* and so entirely neglects the reading-lessons, which certainly present new material; i.e., he compares only a part of the German work with the whole of the Latin first year. Naturally no conclusive results can be reached by such a process. Hence his attempt is doomed to failure from the very start. No wonder he thinks he can so easily prove his point!

There is of necessity a great element of subjectivity in the whole article. This is shown very clearly in the manner in which he divides German and Latin words into those "strikingly similar to the English" and those not so. At the bottom of p. 303 he gives the list of German "nouns strikingly similar to the corresponding English words." I should like to submit the list to an American who has no knowledge of German and see how many he would be able to guess. I would take exception to *Fleisch*, *Eisen*, *Herbst*, *Schultag*, *Strasse*, *Dame*, *Weber*, *Weberei*, *Freiheit*, *Junge* ("boy"), *Heimat*, *Land* ("country"), *Mädchen*, *Christ* (Christian), *Neffe*, *Witwe*, *Studentenschaft*, *Dummheit*, *Häuschen*, *Mutterchen*, *Regen*, *Eltern*, *Durst*, *Antwort*, *Sprache*, *Glück* ("happiness"), *Unglück*, *Zucker*: 28 out of 100. Others are not quite the same as the nearest English word or not necessarily the same, e.g., *Limonade* does not necessarily mean what we understand by lemonade but is used (especially in the compound *Brauselimonade*) to mean a soft drink, pop. Say to a waiter in a restaurant in Germany: "Bringen Sie mir eine Limonade!" and he will ask: "Brauselimonade oder naturelle?" And if you say "Brauselimonade," he will ask: "Citronen—oder Himbeerlimonade?"

At the top of p. 304 Mr. Senger states that the student needs to learn only two facts about the words similar to the English. Why not three facts as for the Latin similar words on pp. 306-7? The very fact that the words are spelled differently in German than in English would make it seem necessary to devote some time to the nominative form in German as well as in Latin.

Under the German adjectives, I do not find any numerals,<sup>1</sup> whereas there are eighteen Latin numerals given on p. 307. I cannot say how many numerals there are in the German text read in the Woodward High School, but certainly there must be some. Again I do not find any German comparatives or superlatives, although the Latin list contains a number.

I would take exception to the remark: "The German adjectival declension is simple." For one who knows German it is, but with its variety of strong and weak endings the average American student finds it rather difficult, hence it does seem entitled to some consideration. But who shall say how much, if any, harder the German adjectival declension is than the Latin? On what scales can we weigh this difference? Why doesn't the student have to learn at least three facts about a German adjective if he has to learn three about the Latin adjective? Why?

The next list (beginning *alt, jung*, etc.) is dismissed with the remarks "nothing new here," "negligible for our count," and yet I cannot see how anyone who knows no German can correctly guess the meaning of *genug, Wohl, weiss, dumm* ("stupid"), *fruchtbar, trinkbar*, even though the others might be guessed (*mütterlich*?). But why treat this list differently from the Latin list on p. 307, where two facts are credited to each word? Why not 66 facts for these 33 German adjectives?

It is generous of the author to "disregard the fact that most of the [German] weak verbs are regular." Unfortunately he also disregards the fact that we ask the student to learn the auxiliary (*haben* or *sein*) with which the verb forms its compound tenses, i.e., *ist gekommen* and not simply *gekommen* for the past participle of *kommen*. There is also an important vowel change in the stem of several classes of strong verbs which seems entitled to consideration. Why not six facts then for the German verb?

<sup>1</sup> *Zwei* is mentioned on p. 305.

Again, I would question the list of verbs (bottom of p. 304) "whose meaning is evident from the English." To my mind it is a little bit far-fetched to maintain that the following are readily guessed (by the student ignorant of German) from the German form: *gehen, sprechen, brechen, antworten, fürchten*. And why not four or five facts about this list instead of merely three?

In the first list on p. 305 there would seem to be other facts to be learned about some of the words besides merely the word and its meaning. Some are declined, e.g., *ich, du, wer, der, jeder*, etc.

"The following 26 words" (second list on p. 305) are again "omitted from consideration." Why? *So* = "thus," *wenn* = "if," *mancher* and *solcher* have a declension with some tricks, *allerlei* is not like anything in English that I know of, *gestern* is not so closely similar to yesterday, *morgen* = "tomorrow," *wann* = "when?" i.e., in a question, *als* is used only with a past tense to denote a single definite act in past time and must not be put equal to English "as," *eben* differs from "even," *ausser* and *meistens* are not so easily guessed by one ignorant of German. On the basis of these criticisms—which might be extended to the Latin lists<sup>1</sup>—I maintain that the author cannot claim credence for the results of his comparison. I do not believe that any valid comparison can be made in the manner attempted by Mr. Senger, so I shall not try to show how the "puny Germany regiment of 967" could be made to grow. Merely bear in mind, please, that the German reading-lessons have not been considered at all, only the first twenty lessons in the grammar.

Exactly how the author has figured out his table of inflections on p. 309 (bottom) is not clear, for he does not state his method, but I would venture to suggest that quite a different showing might be made by a teacher of German. I confess I cannot see how Latin can have 7.92 times as many inflectional forms as the German, even in the matter considered in the first year.

As far as the syntax is concerned (p. 310), I confess that I am again in the dark, for the author has his own sources and his own

<sup>1</sup> A person entirely ignorant of Latin guessed correctly a number of the words included under the dissimilar Latin words. More subjectivity!

method of computation. Nevertheless, I would again venture to doubt the results obtained.

In conclusion, let me again emphasize the fact that instruction in modern languages has for its aim the developing of the living language within the pupil's mind until he can understand readily simple German (or French) and can make a simple but rational and idiomatic answer to a question in the foreign language. To my knowledge this is rarely attempted in the Latin in the public schools of America. Hence the great difficulties in comparing the work in the dead with that in the living languages.

Had the author unlimbered his guns and proceeded directly to his attack on the college-entrance requirements, we should all have been with him, but the little sortie against the Germans, his allies in the campaign for more liberal entrance conditions, has to be met. The pressure brought to bear on the modern-language instruction by college-entrance requirements is possibly almost as oppressive as in the Latin department. If the schools have to do a great amount of reading, they cannot give the necessary time to the oral work which is expected nowadays. The attitude of the colleges in striving to outdo one another in comprehensiveness of entrance requirements simply forces the preparatory schools to be superficial, to skim over the surface of things, to make a "splurge," as the saying goes. Until the high school is delivered from this thraldom, the average American will continue to suffer when compared to the product of a good European educational system.

## ON THE TEACHING OF FRENCH PRONUNCIATION

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If we are willing to discuss French pronunciation at its very root, without the suspicion of an assumption, we shall have to begin by asking ourselves the searching question whether it is worth teaching at all. That is a fair question: we must not let even a special interest in phonetics blind us to its sanity. Of course the "practical" conversation-enthusiasts will promptly proclaim that a good pronunciation is the first and fundamental thing: there can be no possible doubt about it, since the object of language-study is to learn to speak, and a satisfactory pronunciation is a large part of correct speech. If, however, our conversational friends have no objections, we should like to ask them to think for a moment of the situation of the classics in England. If one may safely assert that the contribution of classical culture to the intellectual life of England has been significant—if Plato and Horace have meant something to English thought, in spite of a pronunciation more redolent of Oxford than of Athens or Tusculum—may we not have to reconsider our proclamation that the sounds of the language are the whole thing? Perhaps we shall remember, too, that there are those who enjoy much of the fine flavor of Montaigne and Pascal and Voltaire and Sainte-Beuve without possessing any appreciable ability to pronounce correctly. When we have thought on these things it may be that we shall hit upon something which the old-fashioned call ideas. It may even be that we shall consent to lose the whole world of sound, if we can win this, the soul of literature.

But the loss is none the less deplorable. Our friends who pronounce badly or not at all are missing a great deal. And so, having made generous concessions to the inarticulate study of language, we are now in a position to return an honest affirmative to the modest query whether the study of pronunciation has any place

at all in language work. There are at least six reasons for giving such an answer: (1) It is impossible to prevent the student from forming some sound-image for the printed word which he sees, and the sheer interest of truth should compel us to make that image as accurate as possible. (2) The study of pronunciation trains the ear to careful discrimination and the speech organs to intelligent action. (3) Sounds are natural phenomena, and therefore correct interpretation of them is a part of science. (4) In like manner the development of a feeling for beautiful sounds is a lesson in esthetics. (5) Correct pronunciation is essential to the highest appreciation of such literary forms as poetry, drama, and oration—all literature, in fact, in every aspect but the purely intellectual one. (6) A good pronunciation is necessary for those who wish to speak a language pleasingly—not the highest form of language-study, but an important form. Hence, though not essential, pronunciation may be looked upon as highly important. When we say that it is not essential, we mean for our students, of course. For teachers every side of the language is essential; in the matter of pronunciation they should be satisfied with nothing short of perfection.

Assuming, then, that our subject is important, if not all-important, we shall next consider some ways of teaching it effectively. The suggestions to be made herein may be outlined as follows: (1) Select a scientific method. (2) Give the pronunciation inductively (by imitation), before the study of principles is taken up—concrete facts before rules. (3) Present all possible sounds—in particular the vowels—in contrasted series, before giving minute attention to each alone. (4) If possible supplement the preliminary inductive work by some concentrated study of separate sounds and of the principles behind them.

We come first to the question of method. While it is well for those of us who have learned to respect the science of phonetics to be on our guard against hobby-riding, yet we may be pardoned if we feel convinced that the modern scientific way of treating the French sounds is in every respect superior to the old-fashioned combination of guesswork and error. The new method involves nothing more terrifying than an accurate analysis of the facts, and there is no reason why we should be technical in our attempt to be

scholarly. The student of pronunciation needs, in the first place, to get a correct idea of what the most important sounds are like, and the science of phonetics has taught us that it is *not* correct, for instance, to make the French *e* in *des* even approximately equivalent to the English vowel in *day*; hence there is no good reason why one should decry a simple explanation of the undesirable "glide-sound" in the English word just because it happens to be scientific and exact—and "phonetics"! Secondly, a student can be helped to form the French sounds by some simple suggestions regarding the use of the organs of speech; and we must turn to the phonetician for classification and explanation of sounds according to this principle. Thirdly, he must know how properly to associate the unsystematic and irrational spellings of the standard orthography with the sounds for which they are supposed to stand. Now the old pre-phonetic grammars did none of these things satisfactorily; but happily there exist today grammars with accurate chapters on pronunciation and also a few manuals which have passed muster with the critics. Not that everything modern is good; in fact, some recent works are ludicrous. But accurate books can be found.<sup>1</sup>

We shall assume then a practical but modern and scientific method. But it is not enough to have a good treatment of pronunciation; one must know how to use it. Here the writer will make bold to recount his own experience, believing (tentatively) that it reveals an important principle. For several years he had taught the subject conscientiously from a manual—and with satisfactory results. The method used may be characterized as *intensive*, in that it demanded concentrated study and practice of a single sound until mastered, and then the next sound. It might also be called *theoretical*, since, though great importance was attached to learning by imitation, the student was also expected to utilize the exposition of the principles. Partly from a study of what progressive Germans are doing, and partly from observation in the classroom, it finally dawned upon the teacher that his method—in spite of excellent results—was still defective. In the first

<sup>1</sup> For a list of works on this subject we refer the reader to Professor James Geddes' *French Pronunciation* (Oxford University Press, 1913), with the warning that the author is rather too merciful to some pretty poor books.

place it became apparent that the intensive concentration upon one sound resulted in a blurring of those distinctions which stand out so sharply when phenomena are intelligently contrasted; that some students would almost forget what sound they were trying to make, so hard were they straining to make it. Secondly, this method seemed defective because it did not reserve all systematic exposition of theory until the facts had been met inductively, when theory would be welcomed as an aid to classification and clarification. Hence it seemed probable that there was a more excellent way of approach than the intensive, *the way of contrast*; that the sounds might better be presented in series, emphasizing the place of each in the broad perspective and its differences from its neighbors. And it became clear at the same time that inductive imitation should precede all theory.

The best illustration will be a detailed explanation.<sup>1</sup> Phoneticians know that the eight fundamental French vowels—*sie, fée, fête, fade, fable, folle, faux, fou*—form a logical series or scale. In the first vowel the mouth is a narrow slit and the tongue is forward; in the last the mouth is rounded and the tongue is back.<sup>2</sup> We begin our presentation of pronunciation by giving to the class the first and the last sounds in this scale, which, being farthest apart, are mostly sharply contrasted: *i, ou; i, ou; fine, fou; mie, mou*; etc. Then we insert the half-way sound of *a*: *fine, fade, fou; mie, ma, mou; dit, date, doux*. When this much has been mastered, we insert the sounds of *é* and *è* between *i* and *a*: *fine, fée, fête, fade; dit, dé, dès, date; git, j'ai, jet, jatte* (with the explanation that these vowels form a rational series, in which the mouth progresses from a narrow slit to a round opening). Next we insert the *o* sounds between "broad" *a* and *ou*: *fable, folle, faux, fou; mâle, molle, môle, moule*.

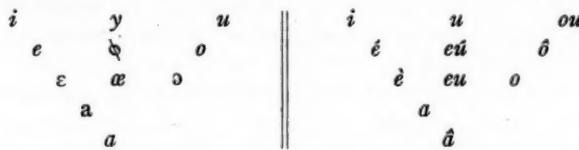
The three sounds heard in *peur, peu, pu* also form a series. We may allow ourselves to consider the vowel in *peur* as a rough

<sup>1</sup> Most of what follows here is extremely elementary. It is an old story to those who have studied phonetics, but it must be told here for the sake of clearness and for the benefit of those to whom it may be new.

<sup>2</sup> These physiological facts need not be imposed upon young students, but they are the basis of this presentation of the subject.

equivalent to the English vowel in *sir*, and then proceed to form the vowels in *peu* and *pu* by rounding the lips and pushing the tongue forward and upward as we proceed. This process is sometimes helpful in learning the difficult French *u*.

Another arrangement of these eleven sounds is the well-known triangle, given below in the alphabet of the International Association, by the side of a more popular phonetic alphabet which has proved useful. In both the sound of *e* in *le* is taken as the equivalent of *eu* in *peur*.



At the lowest point of this triangle the tongue is in its lowest position, but as we ascend on the right or the left the tongue gradually rises to the highest possible position for French vowels. As we proceed to the left the front of the tongue is raised; as we proceed toward the right its back is raised. The angle of the jaws is greatest at the bottom of the triangle, and is gradually diminished as we ascend.<sup>1</sup> If we combine the tongue-position of the vowels in the left-hand column with the lip position of those in the right-hand one, the result is the vowel in the middle column.<sup>2</sup> Thus we find it possible to present such series as *mais, mort, meurt; fée, faux, feu; pie, poux, pu*; and so on.

By this presentation the vowels are given in contrast, not as isolated entities: thus we emphasize those characteristics which distinguish them from each other and also their relationships to each other. The wider and more obvious contrasts are presented first, then the finer distinctions. They are always pronounced in their series, never alone. Every lesson, day after day, month after month, may begin with a rehearsal of this triangle, backward,

<sup>1</sup> See Walter Rippmann, *Elements of Phonetics* (Dent, 1905), pp. 25 ff.

<sup>2</sup> Some scientists emphasize the contention that *u* corresponds, not to the tongue position of *i*, but to a very close *ē*; and *eū*, not to *e*, but to *è*. The difference is not of immediate practical value to American students.

forward, and crosswise; first the vowels as they stand, and then prefixing or affixing the difficult consonants (*r*, *l*, *t*). Only by means of repetition shall we achieve any real familiarity with the strange French sounds. It may be well to add the four nasals to this exercise, and to have a clear chart containing these fifteen vowel sounds hanging in the classroom for daily use. The moment a student becomes confused in trying to pronounce one of the vowels, he should return to the series in which it is found and seek to recover his perspective.

It is the explicit purpose of this paper to deal with principles; but two details are of such importance that a word may be said about them by the way:

1. The sound of *é*. Usually our students pronounce this like *é*, or even let it degenerate into "eh-ee." It is in fact an exceedingly difficult sound. By all odds the most satisfactory approach to it seems to be through the English "short *i*." Let students be instructed to pronounce *dé* with the English vowel in *did*. If they stop there it will be better than "deh-ee"; but usually they can be induced to open the sound just a little toward "day," and the average result is pretty satisfactory.<sup>1</sup>

2. In similar fashion it is well to stress the "ee" element in the difficult *u*. Usually such a word as *bu* becomes "boo" or "byoo" in the mouth of the American student; that is, he exaggerates the importance of the "oo" element. Let him therefore disregard it altogether at first and pronounce every French *u* like "ee" in English. When this pronunciation is merging into a habit, a slight rounding of the lips (as for "oo") will bring about the desired fusion of the two elements. When this sound appears as a semi-vowel (e.g., in *juin*, *puis*, *Bossuet*) it is even more difficult to catch. It is best to pronounce such words at first as though the *u* were wholly syllabic (thus "ju-in," "pu-is," "Bos-su-et"), and then pass to the lighter pronunciation with the semi-vowel value.

After these fifteen vowel sounds have been mastered, the consonants may be taken up. For the purposes of review and variety each successive consonant may well be combined with all the vowel

<sup>1</sup> The *y* in *very* is pretty close to this French *é*.

sounds in their rational order; thus (for *d*) *dit, dé, dès, date, damne, donne, dos, doux, laideur, deux, du, dans, daim, dont, d'un*.<sup>1</sup>

After this first view in perspective we may, if we like, turn again to the beginning of the subject and do some intensive work on each sound, for the purpose of smoothing off all the rough places. Our method is still inductive—imitation of the teacher with no study of rules. Very possibly this inductive method of teaching sounds, solely by imitation, may be quite enough for beginners, perhaps not; everything depends on the extent to which we mean to study pronunciation. At any rate, if one wishes to continue beyond this purely imitative stage, the following suggestions may be permitted:

1. It is recommended that the intensive study of pronunciation (if undertaken at all) be concentrated into a few weeks, and that no other language work accompany it. This sounds like an arbitrary demand: it is due to the simple human fact that pronunciation is never seriously *studied* when it is tacked on to lessons in reading and composition.
2. It is wise to increase the number of class meetings and to diminish the hours of preparation during the period of intensive study of pronunciation. For instance, if a class normally meets three hours per week and studies three, we may increase the meetings to four or five hours and decrease the hours of study to two or even only one. The reason for this change is that in pronunciation the private work of the student is much less valuable than the class-work.<sup>2</sup>
3. Enforce private practice of the exercises, always assuming that the student has first heard them carefully pronounced by the teacher.
4. Expect some study of theory, except by young children. Theory is here taken to mean such simple things as the ability to

<sup>1</sup> The present writer has naturally tried to incorporate into his own manuals (*Exercises on French Sounds* and the more advanced *Introduction to the Pronunciation of French*, published by Jenkins, New York) exercises of this kind and other features which have appealed to him as desirable.

<sup>2</sup> While the value of the phonograph for purposes of learning to pronounce may not be quite so extraordinary as some enthusiasts seem to believe, it should not be overlooked. It is especially helpful in the hours of private practice, and as a support to teachers who may be a little weak in pronunciation.

describe the peculiarities of the foreign sounds—for instance to distinguish the French *des* from the English *day* (="deh<sup>ee</sup>"); also to explain the relation of spelling to pronunciation, e.g., "s between vowels has the sound of z, elsewhere it is like s."

5. Finally, I advocate a moderate use of phonetic transcription—not necessarily the strange signs of the International Association, but some simple alphabet designed to give consistent visual notation to sound. To those who indignantly condemn such a practice, we may simply put this question: "What essential difference is there between the use of phonetic transcriptions and the use of a pronouncing dictionary for difficult words in our own tongue?" When you want to know whether *architrave* is pronounced "arki" or "artchi," you simply consult your pronouncing dictionary and the *k* tells you at a glance. Now almost every French spelling is as enigmatical to the young American as *architrave* may be to the adult. Phonetic transcriptions accustom the student to express in writing his conception of the pronunciation of a given word, and, when this written form is corrected and learned, it becomes a permanent picture which will ever after help to prevent mistakes.<sup>1</sup> A glance at a few typical words will show why this is so. Look at *veille*, *vieille*, *veuille*, and *vaille*: these almost always worry the class. Let us now transcribe them as "vèy," "vyèy," "vey," and "vay"; can anybody misread those? *Reine* and *rien* are less likely to be confused than "rèn" and "ryè." Such transcriptions of sentences as "âksèbô" or "sam frè dla pèn" convey notions of phrasing and quality that few derive from the conventional *Ah! que c'est beau*, or *Ça me ferait de la peine*. This matter of transcribing into phonetic symbols should be tactfully introduced, so that there may be no danger of arousing prejudice. The first work of this sort may well be done by the teacher himself before the class. By such spellings as "vèy" and "vyèy" or "jä" (*gens*) and "jèn" (*gène*) he can show his students that words can be represented in

<sup>1</sup> There is no denying the shortcomings of the present alphabetic scheme. As Paul Passy (*Les sons du français*, 1899, p. 19) puts it: "Different letters are used to represent the same sound, as *c* and *q* in *cog*; the same letter is used for different sounds, as *c* in *car* and *cent*; two letters are used for one sound, as *ch* in *champ*; a single letter represents two sounds, as *x* for *gx* in *exemple*, or for *ks* in *boxe*; frequently a letter is altogether silent, as *e* in *beau* or *s* in *nes*."

a logical and helpful fashion far superior to the usual spellings. After a reasonable amount of this kind of demonstration has broken the ice, short easy assignments should be given to the class. As this work increases in amount and difficulty, its value will grow more and more evident. Many a student who begins it with a groan will later instinctively clear up difficulties of pronunciation by seeking the correct phonetic transcriptions.

By phonetic transcriptions one means the omission of all silent letters and the representation of the sounds by a clear and consistent notation; thus *doigt* = "dwa," *quand* = "kā." Personally I believe that the phonetic alphabet should, for practical reasons, be as nearly as possible like the orthodox French alphabet, and therefore I feel that the admirable international phonetic alphabet is not the happiest possible selection for young students. If our sole object be to facilitate the learning of French pronunciation, is it not then a little confusing to be told that phonetic *tu* is pronounced *tou*, that *j* = *y*, and *y* = *u*, etc.? Is it not simpler to write *tout* as *tou*; to give *j* an obvious value (e.g., as in *rouge* = "rouj"); and to let *y* represent, in a word like *hier* ("=yèr"), a value that will never jar with any written French we see? Excellent results have no doubt been obtained with the international alphabet, and many are attached to it for various reasons, sentimental or rational. Every teacher should of course know it and advanced classes may well use it. But experience and reflection argue for its simplification when we are dealing with any but specialists. If our purpose were to further a general phonetic propaganda or to train phoneticians we might do differently, but I do not feel that we should make the best choice in adopting this un-French alphabet when we simply aim to help students to learn to pronounce French: its very excellence as an international alphabet keeps it from being the best stepping-stone to French alone.

This view has been opposed by a teacher of German who takes the ground that the international alphabet should be taught in connection with French because it will be ready for use by those who later take up German. But how about such a plan from the point of view of the French class? If our special alphabet proves to be far better adapted to our special French purpose, it may be that

French teachers will have to decline to consider any other claims. For this decision they would have several reasons: (1) They must consider primarily the immediate needs of their own class, many of whose members may never take up German. (2) The need of a phonetic alphabet is much more acute in French because of its confused orthography; even if such an alphabet is used in the later German courses, it is by no means so great a necessity. (3) The important thing is to create a phonetic sense; given this, it will not be difficult for pupils to adapt themselves to varying phonetic alphabets in different languages.

When the manual<sup>1</sup> is finished we may well follow up the study of the subject by assigning a particular portion of some reading lesson for pronunciation work; some of this may be transcribed phonetically. Conversation work, too, fits in nicely with pronunciation. If we take the trouble to familiarize the class with material to be used in conversation by giving it first as dictation, then by having it pronounced and at least partially written out phonetically, it will become so familiar and will be so well pronounced that conversation will be both pleasant and profitable.

Let us not forget that a foreign pronunciation is a difficult discipline, usually demanding in the adult some intelligence and much practice. Society ladies and indolent students will lament when compelled to follow any rigorous method: they are quite satisfied with the easy and the ineffective. Let us not deceive ourselves nor them. Good results will come from hard work alone. But this hard work can be simplified by the scientific method, the inductive approach, and the principle of contrast by perspective.

<sup>1</sup> That is to say, the intensive study of pronunciation, by whatever means it be pursued.

## EDUCATIONAL NEWS AND EDITORIAL COMMENT

MADISON, WIS.

September 8, 1914

*Professor C. H. Judd, Editor, "School Review"  
University of Chicago, Chicago, Illinois:*

MY DEAR PROFESSOR JUDD: Such is your reputation for veracity, desire for truth, courage to face truth, willingness to have truth before your readers, ability to participate in an educational survey, understanding of present tendencies in American education, sense of humor, that I am constrained to put in your hands a few facts that may help you when undertaking future labors such as the leading editorial on page 485 of the September, 1914, *School Review*.

Very truly yours,

WILLIAM H. ALLEN, *Director*

*Par. 1.* The definition of the purpose of the State Board of Public Affairs is quite inadequate.

*Par. 2.* The William Allen referred to is usually referred to editorially as William H. Allen.

The "former connection" mentioned with the Bureau of Municipal Research is *present* as well as *former*; Mr. Allen is still a director of the Bureau of Municipal Research and the Training School for Public Service, on leave of absence to serve as one director of the University of Wisconsin Survey, and to conduct certain surveys for the Milwaukee Board of Education.

The Mr. Farmer referred to is usually referred to editorially as Mr. A. N. Farmer who, in addition to "having been associated 'with' Mr. Allen in a number of public surveys" has personally directed a survey of eight normal schools for the State of Wisconsin with notable results.

"The institution with which he was connected and of which he is still director" was not merely employed by the Wisconsin (State) Board of Public Affairs in a survey of the rural schools (please see last paragraph of this letter) but to make the survey; the institution raised the money to furnish the men to make a study such as had not yet been made; on the record of the rural-school survey the same group was asked to make

the state-wide normal-school study and later the university survey for Wisconsin.

"His connection with the New York City Survey" has not only "been a subject of general knowledge" but a subject of general understanding and fair treatment, the *School Review* being the only popular or educational journal in the country that has enjoyed misrepresenting the facts about such connection.

*Par. 3-4.* Your editorial estimate of the time which numerous instructors say was profitably spent in filling out the survey questionnaire is an underestimate.

The two other specific questions which you suggest are difficult, if not impossible, to answer, or are confusing, are shown by results not to have been confusing; and instead of bringing out trivial criticisms they brought out helpful suggestions.

*Par. 4.* The person referred to as having "acquaintance with university life—merely that of a student and a professional inquirer" has had work as student in Carleton College and the following universities: Chicago, Leipzig, Berlin, Pennsylvania, and Harvard; had one year as instructor of undergraduate work at the University of Pennsylvania and another second year with a graduate seminar at the University of Pennsylvania.

*Par. 5.* The question as to how often members of the faculty have consulted with the president and the deans need not be based on the assumption that the president of a university has acquaintance in detail with departments; in fact, that question like a great many others is based upon a desire to know and not upon any assumptions; there are those who wonder why 108 out of 140 consultations in one large college, involving several hundred instructors, were by one instructor and what that signifies as to avenues of knowledge open to his superior officer.

*Par. 6.* Not a scintilla of evidence is there that the University of Wisconsin's organization is to be attacked. The president, the overwhelming majority of the faculty, and the regents unreservedly have co-operated with this study. Not an indication is there that the democracy of Wisconsin has had any difficulty in understanding the university, so far as it has been given information.

Your reference to the officials of the State of Wisconsin is a gratuitous affront (so long as you fail to support it), based upon lack of knowledge or malicious distortion of knowledge.

Instead of "invading" examinations for the higher degrees, the investigators were invited by the dean of the graduate school.

The statement as worded, "Students are asked questions with regard to the value of different courses" is untrue. Absolutely untrue is the statement, which you have been cautious enough to attribute to others, that "the

inquirers threatened to subpoena these students and make them answer questions, as the state's witnesses."

The rules of the University of Wisconsin now authorize "the faculties of the university as official servants of the commonwealth to subpoena students for various purposes."

"Members of the faculty whose research work is being critically scrutinized" now need no law such as you propose "to draw in witnesses who could support the case in behalf of research." They have been urged to supply such witnesses, every one of whom has been heard. Moreover, as has been repeatedly stated publicly long before your visit to the university as a lecturer this summer session, all statements of fact are being and will be submitted to the university before publication or before use for conclusions, for confirmation or modification according to any further evidence, if such exists.

*Par. 7.* The statement which you repeat "as understood" . . . "that some of the inquirers in this case are very doubtful about the value of studies of ancient history and of the remoter fields of science" is infinitely less fair to the inquirers than your method of reaching conclusions without information.

Your concluding paragraph regarding the department of education would have sounded differently if you had frankly told your readers how you happened to be at the University of Wisconsin, from whom you secured your misinformation, and your personal interest in the personalities connected with what you call the experimental school.

Not "rumor" but *repeated public statement* might have been your authority for saying that the department of education is receiving special attention. By advance agreement with President Van Hise, before the survey was formally begun, the department of education and the courses for the training of teachers were studied in detail, partly, as announced in the newspapers, because it was possible to organize immediately for study in the short time left, and partly because President Van Hise took the position that in specially examining the work for the training of teachers we would be studying what ought to be the university's strongest points.

*Par. 8.* What you call "the experimental school" is referred to at the university in legal documents as the "School for Demonstration and Practice." Had you passed on to your readers what was available and had been publicly reiterated, you would have told them that the University of Wisconsin survey is to result not in a "body of opinions," but in *statements of fact*.

The so-called "experimental school" is not "connected with the department of education" in the sense you imply.

The Wisconsin rural-school survey referred to was unlike your Boise City survey, for example, in that every one of its statements of fact was supported by a definite record that was filed in the official archives. Not one of its specific facts was publicly attacked. Upon its facts over two dozen remedial bills were passed by the Wisconsin legislature. No less an authority on the needs of the State of Wisconsin than Professor E. C. Elliott, chairman of the committee on accredited schools and director of what you call the experimental school, and whose "character and work" you emphasize, issued a public statement about the survey to the people of Wisconsin, Friday, October 7, 1912. After mentioning the fact that a joint committee had gone into the rural-school survey constructive program; and after listing among the members of the committee, in whose name he was addressing the people of the state, Messrs. Reinsch, Hohlfeld, Kahlenberg, Monroe, Thomas, and Babcock; and after stating that it was at the request of the committee that he submitted a report; he wrote the following words which, as you see, are quite in contrast with your editorial: "The proposals contained in the program to which we have given special attention and upon which we desire to pass evidence, are those stated below. *We are convinced that these proposals are thoroughly sound in principle and in full accord with the best educational thought of the day.* We consider that immediate attention to each of them is necessary for the improvement of the quality of the rural schools of the state." After the study was completed and after the little specious opposition that existed had been thoroughly voiced, Professor Elliott asked the help of Mr. Lindholm, who had been in charge of the rural-school survey, on one of his graduate courses, which is announced in the catalogue for 1912-13 in part as follows: "232b. Practicum in educational legislation—a study of contemporary legislative movements with special reference to public education—elementary and secondary, etc., Mr. Elliott, Mr. McCarthy (jointly supervising the survey), and Mr. Lindholm (directly in charge of survey field work)."

MADISON, WIS.  
September 11, 1914

*Professor C. H. Judd, Editor "School Review"  
University of Chicago, Chicago, Illinois:*

MY DEAR PROFESSOR JUDD: Your letter to the effect that the *School Review* will print in full my communication to you of September 8 quite overwhelms me. My letter was addressed to you rather than to a larger audience. I am very glad to reach the larger audience, but hope that you will be able to make the few amendments herein given so that your readers need not be confused.

*Page 555, line 6 from bottom: please read: "the institution with which he  
(Mr. Allen) . . . ."*

*Page* 556, line 9 from top: please insert: "University of Wisconsin survey."

*Page* 556, line 24 from top: please insert the word "survey," so as to read: "like a great many other *survey* questions."

*Page* 556, fourth line from bottom: please change so as to read: "by the dean of the graduate school *to visit such examination.*"

*Page* 557, line 5 from top: please add: ". . . various purposes. *Hence your suggested amendment to law is not needed.*"

*Page* 557, line 12 from bottom: please change to "for studying them in the short time between May 1 and commencement."

*Page* 558, line 8 from top: please correct "work" to read "worth."

Very truly yours,

WILLIAM H. ALLEN, *Director*

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#### INDUSTRIAL EDUCATION IN WISCONSIN

An authoritative statement by Mr. Warren E. Hicks, state director of industrial education in Wisconsin, has done a great service in setting squarely before the public the real facts concerning the progress of the industrial education movement in that state. Much has been said and written about the achievements of the continuation schools organized under the statutes of 1911, the oldest of which has been in operation about two years. Many of the claims made for these schools have been extravagant, prejudiced, and wholly misleading. This statement by Mr. Hicks serves at once to correct these errors and to bring to light with startling clearness the great service which the Wisconsin plan is doing the cause of public education.

There has been considerable controversy as to whether these continuation schools are really effective in accomplishing the purpose for which they were created. It has been asserted on the one hand that these schools were providing a genuine vocational education for the large group of children compelled under the new law to attend them for a period of four or five hours a week. For example, an article by Mr. H. E. Miles, chairman of the Wisconsin Commission on Industrial Education, would lead one to think that the pupils are receiving instruction which is contributing immediately to their vocational efficiency, and furthermore that they are doing so by virtue of the fact that the continuation schools are entirely unlike the regular public schools in the opportunities which they offer in organization, and especially in the character and quality of the teaching. In the article above noted, Mr. Miles says:

Is the Wisconsin work truly vocational? When twenty-five little boys from a factory where they help make wooden toys are taught the scientific

meaning and use of the tools of their trade, the answer is obvious. Also, it is plain when thirty-five young druggists, eighteen to thirty-five years of age, are instructed in their trade by a college graduate and general manager of a successful drug manufacturing company, and by a member of the State Board of Pharmacists, the proprietor of a successful retail drug store, a highly skilled and accomplished gentleman; or, when classes of apprentices are taught after the fashion of the best trade schools, and when fifty young girls getting \$3.50 a week are taken from a department store, and are so bettered in their occupation as to delight the employer, who first yielded reluctantly to the requirement that they come to school. Similarly the answer is clear when fifty working mechanics are given instruction in very simple mathematics because they are really "fourth graders" and must brush up on arithmetic before they can do those things for which they particularly come to the school. So, equally to the writer's mind, was the school vocational for the boy who was taken off the street at sixteen after two years of truancy and idleness, and who elected woodworking and after a few weeks found a place in a woodworking establishment and went on with his schooling and his work. So, the Wisconsin schools are vocational for innumerable children gathered from the four corners, who first elect an occupation and then are taught by whatever humble processes in the first steps of that occupation and, by the hearty, earnest, joint effort of employer, employee, parent, and schoolmaster, are helped to places in progressive employment.

The statement by Mr. Hicks shows that possibly 80 per cent of all the children attending these schools can be given little or nothing that will contribute to their vocational efficiency except by such training as will fit them for some other trade or occupation than that in which they are now engaged. The following excerpts from the statement will clearly illustrate this point:

In comparison with the whole number of people employed in the trades, the number of indentured apprentices, that is, apprentices who hold written contracts with employers, is distressingly small. The alleged apprentice, as a rule, has only an oral agreement, if any at all, and therefore gets his instruction, if he gets it at all, after working a full day, by attending trade extension evening classes. . . . The time is already here, however, when any worker who shows that he has a desire within him to be more efficient in his occupation, does not need to go to the evening class instruction. He may get it in a *Continuation Trade Extension Day School*, and he may get it without loss of wages.

It should be noticed that in so far as apprentices are concerned, the Wisconsin plan presents an opportunity rather than an accomplishment.

Girls under sixteen years, employed on labor permits, call forth a more complex problem. Here in Wisconsin we have a group of about 4,000 girls

with an average age of fifteen years, earning approximately three dollars per week. . . . They are employed in candy making, canning and bottling, and finishing and sewing for tailors and knitters, spinning, spooling and winding, machine knitting, taping, turning gloves and lining, pasting and labelling, cash and messenger service, etc. The question is what kind of a continuation school shall be provided for them.

Can we say that they are engaged in a recognized, profitable employment? Can we say that they have made a choice of occupation? Can we say that they wish to increase their efficiency in the chosen occupation? . . .

The people who have dreams that these permit girls should have trade extension courses exclusively get a shock when they learn that out of the 4,000 girls, 500 hold the same job less than one month, 1,000 hold the job less than three months, 1,000 less than six months, 1,000 less than two years, and barely 25 hold the same jobs for two years.

It may be added that, of the 4,000 girls, approximately 500 may be classified in the established schools in the fifth grade or below; 1,500, in the sixth; 1,000 in the seventh; 500, in the eighth; 500, above the eighth.

What shall we do with the boys under sixteen who enroll in a continuation school? Take 4,000 of these boys for consideration. Their average age is fifteen years. . . . They earn on an average a little more than four dollars per week. They are employed in making shoes, as messenger and delivery boys, office and errand boys, timekeepers, packing and wrapping, folding and filing, tending, and such simple tasks generally. The educational value of their work is very little if any at all.

It must be said that these boys are generally not in a regular, profitable employment, that they have not already determined their aim to remain in and become efficient in any employment. . . .

Only a limited number of these boys are now employed in occupations in which they will be engaged in the future. Hence, Continuation Trade Extension Day Courses are possible only with a very few of them, possibly 400 or 500 of the 4,000.

Only a limited number of these boys who are lacking in general education will be greatly helped by general improvement in academic courses, possibly only another 400 of the 4,000 under consideration. The dominant service, therefore, seems to be in the activity of the Trade Preparatory Courses, which provide for instruction in a trade or occupation not followed by its pupils during the balance of the working day.

Under the Wisconsin law, permit children must attend the continuation school five hours a week for six months a year, a total of approximately one hundred and thirty hours. Of this time, fifty-two hours must be spent in the study of English, citizenship, sanitation and hygiene, and the use of safety devices. This leaves seventy-eight hours a year, which may be devoted to trade preparatory work.

In prevocational schools, from three hundred and sixty to five hundred and forty hours are available for such work. As the children are about the same age as these permit children, it will be seen that the prevocational school is much more likely to give an effective industrial training.

We would not have it appear that we are criticizing unfavorably the effort which the state of Wisconsin is making to solve the problems of industrial education. We are inclined to think that, however extravagant are the claims which have been made for this system, a far greater service has been done by the state in organizing these schools than has been claimed by their most prejudiced advocates. But we are inclined to think that this service consists primarily in showing to the educators of Wisconsin and to all thoughtful educators the country over the pertinent facts regarding the condition and characteristics of the retarded and eliminated children of the regular public-school system.

Many studies in retardation and elimination have been made, but probably nowhere in the country has there been the same opportunity to study intensively and for a considerable period of time all or nearly all the eliminated children in an entire state. If the law of Wisconsin had been devised for the specific purpose of making possible this one study, the results could not have been better.

These results show that the training now being given in the continuation schools should have been made available to the vast majority of these pupils at least one or two years earlier; in other words, while they were in the regular school system. They prove that prevocational work should be introduced into the upper elementary grades of the Wisconsin schools and made available for all children of thirteen years of age or over.

When such an enlargement of the regular public schools is inaugurated, then the four or five hours a week of continuation-school training can accomplish the genuine vocational work which some of its advocates erroneously believe that it is doing today.

F. M. L.

#### THE GIRL AND ALGEBRA

The demand that girls be allowed to graduate from the high school without any algebra is not new. The question has been discussed throughout the country by parents and teachers, by administrative officers, and professors of education. The friends of algebra demand that it be retained. They insist that a certain amount of algebraic

knowledge is considered essential to one who hopes to be successful in commercial and industrial lines, since algebra continues the study of arithmetic; and that, like the other branches of mathematics, algebra is peculiarly adapted to train the mind in expressing correct thought in correct language, in accuracy, in originality, and logical reasoning. On the other hand, the foes of algebra deny that the study of algebra is of much value to the young pupil. They wish to see it sidetracked, because it is not immediately useful. Some even contend that it is known to have injured the mind, destroyed the health, and wrecked the lives of thousands of children.

It is reported that Dr. J. H. Francis, superintendent of the Los Angeles schools, has raised an entirely new point against algebra in an address before the National Education Association at St. Paul, Minnesota. He is said to have observed that girls who study algebra face a terrible doom because of its soul-destroying qualities. "God bless the girl," the reports have him exclaim, "who refuses to study algebra. It is a study that has caused many a girl to lose her soul." In place of algebra, Dr. Francis recommends courses in costume designing, for "there is more art in one well-made garment than in all the art galleries of Europe."

This statement has been criticized in various newspapers, both favorably and unfavorably. "Glad tidings of great joy in the United States," exclaims an enthusiast. "With a boldness equal to that of Thomas Payne, an educator stood before the teachers of the nation and made a plea for human mercy and kindness—that girls should never hereafter be taught algebra." "God bless the teacher," said another, "who had the good sense and the courage to get up before the greatest educational body in the world and speak the truth." A third writer says "it is an extreme view," and still another, evidently refusing to be alarmed, suspects that "his indictment of algebra is somewhat inflated and inflamed by summer heat."

The alleged statement of Dr. Francis and some of the views expressed in the newspapers all point to the fact that there exists dissatisfaction with the way algebra is taught in a large number of schools and that there is a demand for something better to take its place. Algebra when taught as a manipulation of symbols which have meaning only in algebra is a subject for mature minds. To present it in this manner to a child is a mistake. For years the friends of algebra have recognized this fact and have been at work to reconstruct this valuable subject so that it can be understood and enjoyed by young pupils. However, it takes

time and study to work out a plan different from the customary course. That progress is being made is easily seen from a careful comparison of some of the latest textbooks with the older books. Changes have been made mainly along the following lines: much abstract work is omitted or postponed to a later stage; the subject is being vitalized by bringing it in touch with real life; the processes of algebra are illustrated and represented concretely by using space material. The important problem before the teachers of secondary mathematics is to go on with the process of reconstructing algebra, or the whole course if necessary, until we have a course adapted to the pupil's mind. There is no reason why such a course should not form a good foundation for boys and girls who expect to go to college as well as be of practical value to those who do not go to college.

The main question is not now whether algebra is more difficult for girls than for boys. Most likely it is not. In many carefully graded tests the writer has found that girls often excel boys in algebra. Nor is the question whether a girl should learn things besides what will be of immediate use to her in her household work. If a study is of such educational importance as to be required of boys, there is no reason why it should be less valuable for girls. To make algebra, or all high-school mathematics, elective would be a change welcome to most teachers of mathematics, as it is easier and more pleasant to teach a group of pupils taking the work because they have chosen it. However, this would rob many of the opportunity even to find out whether or not they like the subject or are able to do the work successfully.

As to the nature of a course in secondary mathematics best adapted to the pupil's mental growth, it is difficult to know just what it should be. It may be that algebra, being more difficult and abstract than the easier geometry, should not be the first subject taught; it may be that algebra and geometry should be taught side by side. In the meantime, criticism of the old course may be justified and even desirable. But let those who agitate against the old and unsatisfactory also support and help formulate the new until we have a course well tried out and so well adjusted that it can be taught successfully by the ordinary teacher and be valuable not only to boys but to girls.

E. R. BRESLICH

UNIVERSITY OF CHICAGO HIGH SCHOOL

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In the September number of this journal mention was made of the action of the University of Michigan which makes it possible for graduates of a reorganized high school to gain advanced credit in the university.

The high schools are making plans to meet this offer of the university. The following quotation from the *Detroit Journal* outlines the plan in that city:

A revolution has begun in the organization of the Detroit school system.

When all the expected changes are accomplished, which may take two or three years and may require new legislation for some departures, Detroit will have a school system divided as follows:

Elementary schools, running from the first through the sixth grade.

Junior high schools, running from the seventh through the ninth grade.

Senior high schools, running from the tenth through the twelfth grade.

Junior college work, including the first and second years' studies of the university course.

This is the entire transformation to be effected. The chief machinery for bringing the changes about will be in the new high schools recently erected or authorized. The Northwestern is now in operation, but the estimators have allowed for the McMichael, the Northern, the Southeastern, and the Southwestern.

Detroit already has one "six-year high school." The McMillan School, in the Eighteenth Ward, has been the experimenting ground. At the beginning of the present term all pupils from the seventh grade on were placed in charge of the high-school teachers, and elementary Latin, foreign languages, algebra, and other high-school subjects were taken up by them. As a matter of formal organization the old system had to be kept, but the "six-year high school" is there.

It is announced that State Superintendent Keeler has outlined a course of study to accord with the new plan, as reported in the *Lansing Journal*:

#### SIX YEARS OF HIGH SCHOOL

A feature of Superintendent Keeler's plan is to permit students to choose the line of work which they may wish to pursue in the seventh instead of the ninth grade. In effect his plan would make the high-school course one of six years and "the grades" of equal length. It is believed by the state superintendent that the large number of children who now leave school in seventh and eighth grades will be held in school by giving them work which meets especially with their needs.

The plan also enables schools to teach all grades above the sixth by the departmental plan, that is, by having a special teacher for each subject. Moreover, the student will advance by passing subjects instead of grades. "Present conditions in Michigan schools are such that the proposed plan can be adopted easily," declares Superintendent Keeler.

## BOOK REVIEWS

*A Manual of Latin Word Formation, for Secondary Schools.* By PAUL R. JENKS. Boston: Heath, 1911. Pp. v+81.

Probably few teachers find time to deal with word formation in the high-school Latin course other than briefly and incidentally, but for those who wish to put stress on the subject this manual of Mr. Jenks's will prove helpful.

The important prefixes and suffixes are given, together with lists of words in which they are employed in the first four books of Caesar's *Gallic War*, the six orations of Cicero commonly read, and the first six books of the *Aeneid*.

The arrangement of the material is clear, and the accompanying statements seem adequate for the purpose of the book.

Even for teachers who find but little time for this subject the examples thus made available will prove useful for occasional reference, and they may be made to stimulate closer observation on the part of the pupil.

*A First Year Latin Book.* By JOHN THOMPSON. Cambridge: The University Press, 1912. Pp. xvii+227.

Mr. Thompson's little book for beginners in Latin is intended for British schoolboys about twelve years of age. It is briefer than the textbooks commonly used in the first-year classes of American schools and indicates some differences in the preparation given in the elementary schools. The author assumes in the lessons that the pupil is familiar with French to such a degree as to make the knowledge of that language auxiliary to the study of Latin. Questions regarding the derivation of French words as well as of English words are frequently given, and paradigms in some cases have the French equivalent given along with the English meaning. The usage of the three languages is frequently compared in presenting principles of syntax. A larger proportion of the book is given to material for translation and a smaller proportion to explanations and to illustrative material than is usual in beginners' books used in the schools of this country. There is no English-Latin vocabulary provided. A few of the less frequently used verb-forms and the irregular nouns are omitted.

It is interesting to note that the only publications to which the author makes reference in his introduction as having been serviceable for reference are by American teachers.

*Caesar in Britain and Belgium.* Simplified Text with Notes and Vocabulary by J. H. SLEEMAN. Cambridge: The University Press, 1912. Pp. xxx+123.

The story of Caesar's invasions of Britain and of the attack on Quintus Cicero's camp as given in simplified form by Mr. Sleeman is intended for a place

in the second year of the Latin course. There are about forty pages of Latin text, and exercises for translation from English into Latin are included. The book would perhaps serve as an introduction to Caesar in schools having five years for the high-school Latin course.

*A First Latin Reader.* By H. C. NUTTING. New York: American Book Co., 1912. Pp. x+240.

This *Reader* offers material of a different sort from that found in most books of its class. The first part is made up chiefly of stories from American history of the colonial and revolutionary periods told in easy Latin. Henry Hudson, John Smith, George Washington, and Daniel Boone are among the characters who appear in the narrative. A few stories of Roman history also are introduced. The second part comprises stories from Caesar in simplified form, and a few selections from Roman literature. The plan of the book is admirable, and many teachers will feel exceedingly grateful to Professor Nutting for having provided material which is likely to make a stronger appeal to the pupil's interest than that which has heretofore been available for supplementary reading. A few copies of this *Reader* made accessible to pupils outside recitation hours ought to prove a valuable stimulus to the desire to do something more than prepare assigned lessons.

H. F. SCOTT

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UNIVERSITY OF CHICAGO

*The Backward Child, A Study of the Psychology and Treatment of Backwardness.* By BARBARA SPOFFORD MORGAN. A Practical Manual for Teachers and Students. New York: Putnam, 1914. Pp. xvii+263.

This book is based on a principle and method which are new and their application to the diagnosis and treatment of backwardness. It contains an account of tests which are for the purpose of analyzing the child's abstract mental processes—sensation, memory, attention, etc.—to determine in what respect he is weak. Exercises are then prescribed which are for the purpose of improving the function which is weak. This is an interesting rehabilitation of formal discipline and if its success could be attested objectively it would form an important bit of evidence on this matter.

F. N. F.

*The Support of Schools in Colonial New York by the Society for the Propagation of the Gospel in Foreign Parts.* By WILLIAM WEBB KEMP. New York: Teachers College, Columbia University. Pp. viii+279.

Thanks to the seminarial courses of Professor Monroe at Columbia and Professor Jernegan at Chicago, we seem now to be in a fair way to obtain a

history of educational practices in America that will be something more than dead-level detail or a mass of unsupported generalizations. If such patient and thorough work as is represented in the present monograph can be continued and developed by other scholars for half a dozen years, the history of education in our own land will no longer be the phase concerning which we are most in darkness.

It seems strange that the foundations of the Society for the Propagation of the Gospel, which furnished the most important facilities in education during the eighteenth century and cleared the way for public education in the United States, should have been so long neglected. To secure the material at its primary sources, Dr. Kemp spent a year in London reviewing the various London archives, and an equal period in searching through the American records. The first part of the work (chaps. i-iv) relates to the founding of the society and the events that led up to it, and its regulations concerning schoolmasters, while the latter part (chaps. v-xii) gives an account of the educational work in New York City, Westchester County, Staten Island, Long Island, the Upper Province, and elsewhere in the colony.

Despite the multitude of careful details, the whole work is well written, interesting, and filled with the human touch. The writer knows when and how to make generalizations that will illumine and brighten the concrete facts. Especially picturesque is his account of the sectarian controversies in which the society indulged and by which its work was greatly hindered. The treatise is a contribution, and it is to be hoped that the author will, in the near future, give us the benefit of his researches concerning the S.P.G. schools in the other colonies.

FRANK P. GRAVES

UNIVERSITY OF PENNSYLVANIA

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*The Art of the Short Story.* By CARL H. GRABO, Instructor in English in the University of Chicago. New York: Scribner, 1913.

It is a popular belief that one who attains success in any one of the fine arts—for example, one who wins distinction as a writer of stories or as a painter of pictures—achieves his purpose in some mysterious way through feeling alone. His methods are supposed to evolve, and his materials to shape, themselves under the drive of emotions of which he is to a great degree the passive instrument. His own deliberately calculated part in the proceeding is presumed to consist merely in previous practice to attain dexterity, and in subsequent judgment of results.

A different, and less common, idea is that the means by which artistic expression has become effective have been evolving slowly, and that producers of good work have found it necessary to study and analyze historical examples in order to determine their effectiveness or ineffectiveness, and if

possible to find the reasons therefor. To find these reasons is to discover the principles of composition. Without these principles, inspiration is likely to lose much of its force in inefficient forms of expression.

Mr. Grabo in his book, *The Art of the Short Story*, takes this second point of view. He analyzes many stories to determine certain fundamental principles of story-structure and, for the sake of clearness, to classify them. The principles which he brings out are fundamentally true of all stories, long and short, but for convenience of illustration the short story has been chiefly emphasized. Its structural principles are the same in the main as those of long stories and, in part, of the drama. The book attempts to get at the actual creative process, to define the nature of a story-idea, to trace the steps which lead to its realization, and the difficulties which attend its progress. Each point is concretely illustrated.

A book on technique cannot supply to a student creative ideas or imagination, and should make no such attempt. It should, however, accomplish two things: It should enhance the pleasure of story-reading by bringing out the structural difficulties overcome by the writer, and it should develop in the student a knowledge of technique which will guide him through certain initial difficulties in his own experimental work and aid him in determining defects in what he has done and the remedy for them. The principles absorbed by analysis and precept may in time become almost instinctive in their application to creative work.

Mr. Grabo has kept clearly in mind these facts regarding the nature of his subject and has developed its possibilities while respecting its limitations. The result is an admirable textbook for the general student of literature and for the young writer.

WALTER SARGENT

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*The Psychology of Education.* By J. WELTON. London: Macmillan, 1911. Pp. xxi+507.

*The Outlines of Educational Psychology.* By WILLIAM HENRY PYLE. Baltimore: Warwick & York, 1911. Pp. viii+254. \$1.25.

*An Introduction to Psychology, More Especially for Teachers.* By T. LOVEDAY and J. A. GREEN. Oxford: Clarendon Press, 1912. Pp. 272.

*Human Behavior, A First Book in Psychology for Teachers.* By STEPHEN SHELDON COLVIN and WILLIAM CHANDLER BAGLEY. New York: Macmillan, 1913. Pp. xvi+336. \$1.00.

The question what sort of psychology is the most useful to students of education is the subject of much debate and difference of opinion. The textbooks before us are of interest for the light which they throw upon the views of

their authors upon this question. The answer of all is in general much the same. The books may all be said to be chiefly the adaptation or application of the general laws of psychology to education. The framework of the books is a more or less conventional exposition of the facts and principles of psychology with more or less frequent digressions to indicate how these facts and principles determine the best method of procedure in teaching or learning. The chief difference between the four books lies in the different degrees of conventionality of their treatment and in the selection of topics. A brief survey of each book will serve to bring out its individual characteristics.

Welton's *Psychology of Education* departs most from the usual terminology and arrangement of topics of the ordinary work on psychology. He has thoroughly reworked the material of psychology so that it is presented in the garb of untechnical language. The order of topics, moreover, is determined to some extent by the nature and demands of education rather than by the demands of a logical exposition of the facts and principles of psychology. A list of the main chapter headings will make this clear. After two introductory chapters there is a chapter on "Bodily Endowment," which treats of the relations of bodily conditions to mental work and of the importance of the one for the other. The next chapter, "General Mental Endowment," is chiefly a description of the human instincts, and is followed by a chapter on individual variations. The next chapter, which has the misleading title "The Nature of Experience," treats chiefly of suggestion, imitation, and of the formation of habits. A long chapter on interests and their development leads up to one on attention, by which the author means exclusively attention which is deliberately or voluntarily directed. This is a rather stimulating discussion. Under the heading "Learning by Direct Experience" are treated recognition, perception, conception, and memory, and under "Learning by Communicated Experience," the acquirement and communication of knowledge through oral and written language, pictures, etc. Memorizing is here treated briefly. Three remaining chapters deal with critical thought, ideals, and character.

It must be admitted that the dry bones of psychology are covered with attractive flesh in the form of practical illustration and literary allusion, but they do not seem to be very well articulated. The student would not have left in his mind after reading the book any well-organized outline of psychological facts or principles. He would have instead a collection of deductions from psychological principles to educational procedure. Perhaps the most striking feature about the book, however, is a negative one. It ignores almost entirely the body of facts which have recently been gathered by means of experiments in educational psychology. Experiment on memory, practice, and formal discipline, among others, and upon reading, writing, numbers, etc., have given results which should be taken into account by any book on the psychology of education.

Pyle's *Outlines of Educational Psychology* is a brief treatment chiefly of instinct and habit, with chapters on memory and fatigue. This selection of topics is evidently not accidental but is based on the author's belief that these forms of activity constitute the chief aspects of mental life. On pp. 38 and 39 he says: "Man is a creature of instinct and habit. It is true he is also a creature of reason, but how much there is of instinct and how little of reason. What is not instinct is, in large measure, habit"; and on p. 133: "The utmost that education can hope to do is to keep the individual plastic until the highest possible forms of responses for the various situations of life can be acquired and fixed. But it is nonsense to talk about keeping the individual permanently plastic: permanently *set* he will and must." No nonsense then about training the ability to think. An automatic machine with the proper connections between the buttons and levers is the best we can hope for. Even the habits are entirely specific, for "there is no such thing as the transfer of training" (p. 158), though on the next page we are somewhat thrown into doubt when we read that "a study of mathematics will form the habit of looking for the quantitative aspect of things. The study of natural and physical science will develop the habit of looking for the causal aspect of things. Since all must at least have something to do with both aspects of the world, all should study mathematics as well as science." If this is not transfer of training it is the "purtiest imitation" one could wish to see, and if the mathematical and scientific attitudes of mind are of such importance it would seem that some description of them would be appropriate in an educational psychology. The book is sketchy, dogmatic, and one-sided.

Loveday and Green's *Introduction to Psychology* contains a brief and readable exposition of the topics which are usually included in a textbook on psychology, with the addition of a chapter on infancy, and treats them in the usual order. The terminology and manner of treatment are untechnical, however, and adapted to the understanding of the relatively immature student. Frequent references are made to the mental development of the child and to the application of psychological principles to teaching. The newer experimental results are drawn upon only sparingly. As a brief, readable, introductory text on psychology with some application to education the book possesses merit, but it is little touched by the newer movement in educational psychology.

Colvin and Bagley's *Human Behavior* gives the most systematic and complete account of the facts and principles of psychology of any of the books before us. It is a brief introductory text on psychology written from the functional standpoint—that is, the standpoint of behavior—and with frequent applications to education. It is apparently written for normal schools or other institutions in which general psychology is taught to students of education. Every device is therefore used to make the discussion simple and easy of comprehension. Some of the material which has been accumulated by experimental work bear-

ing on educational psychology so far as it touches general problems has been drawn upon. The material is not approached, however, from the standpoint of educational problems or demands, but from the standpoint of psychological analysis. A few topics, such as instinct and memory, are emphasized somewhat more than in the ordinary text in psychology, but they appear in their usual setting and the difference in emphasis is not great. The book may serve to meet a present demand but blazes no new path.

FRANK N. FREEMAN

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## MATHEMATICAL ARTICLES IN CURRENT MAGAZINES

KEYSER, CASSIUS J. "The Human Worth of Rigorous Thinking," *Science, N.S.*, XXXVIII (December 5, 1913), 789-800.

Shows "that science, and especially mathematics, the ideal form of science, are creations of intellect in its quest for harmony." It is a reply to the critics who challenge the human worth of rigorous thinking.

KEYSER, CASSIUS J. "The Study of Mathematics," *Columbia University Quarterly*, XVI, No. 3 (June, 1914), 237-55.

Under another title a major part of this article was published in *Science*, December 5, 1913.

WERREMEYER, D. W. "Reliability of Grades of Test Papers in Mathematics," *School Science and Mathematics*, XIV (May, 1914), 422-29.

Relates by tabulated results that a group of teachers differ greatly as to the value that is placed upon a geometry, algebra, or arithmetic test paper.

YOCUM, A. DUNCAN. "Mathematics as a Means to Culture and Discipline," *Mathematics Teacher*, VI (March, 1914), 135-57.

Suggests that the present weakness in the teaching of mathematics lies less in the devotion of more time to the subject, or concentration upon some branch of mathematics as a whole, than in the more effective teaching of those portions of arithmetic which are directly useful, plus the little arithmetic not thus included and the parts of algebra and geometry which are essential as preparation for future specialization. This should involve a more thorough mastery of useful mathematical habits.

THORNDIKE, EDWARD L. "An Experiment in Grading Problems in Algebra," *Mathematics Teacher*, VI (March, 1914), 123-34.

Records the judgment of two hundred teachers of mathematics in the Middle states and Maryland on twenty-five algebra problems which the teachers ranked in the order of "difficulty." Individual opinions varied greatly. The teachers were undecided whether variations are due to tenable points of view or to errors of judgment.

SMITH, T. M. "The Need of Greater Thoroughness in Geometry and How to Secure It." *Ohio Teacher*, XXXIV (April, 1914), 392-95.

Outlines eight essentials to a demonstration. Tabulates the results of assigning 11,781 computation items to 77 pupils in a four-day accuracy test at the close of a year's training.

DODSON, EDWIN C. "A Study of Achievement in Mathematics," *School Science and Mathematics*, XIV (May, 1914), 430-35.

Shows that in the first two years of mathematics in the Shortridge, Indianapolis, high school nearly 30 per cent of the enrolment failed to receive credit and that over 6 per cent of the third- and fourth-year pupils received no credit.

MOORE, C. N. Discussion: "The Educational Value of Mathematics," *Science* (April 24, 1914), pp. 609-11.

Quotes Professor C. J. Keyser, Columbia, vs. Professor E. L. Thorndike, Columbia, as to the value of human worth of mathematics—the worth of rigorous thinking. The present-day curriculum is blamed for poor results in real mental training.

LENNES, N. T. "Mathematics for Culture," *Educational Review*, XLVII (May, 1914), 469-78.

Suggests the creation of a new type of course in mathematics to be called culture mathematics. It would deal with the subjects of trigonometry, solid geometry, analytical geometry, and calculus.

HOLROYD, INA EMMA. "Mathematics in the Education of Girls," *School Science and Mathematics*, XIV, No. 6, Whole No. 116 (June, 1914), 490-94.

A judicious use of strength-giving subjects, among which the writer classes mathematics, is advocated for girls, who, the writer thinks, should learn what real effort means. She would have the girl fill her mind with food for thought and varied interests in life to replace some of the domestic duties.

FORD, WALTER B. "The Future of Geometry," *School Science and Mathematics*, XIV, No. 6, Whole No. 116 (June, 1914), 485-490.

The writer feels that there is a tendency to make geometry more real and natural to the beginner at a certain sacrifice of the purely formal and traditional. He is willing to accept the applied problem and a limited use of the informal proof.

FERRY, FREDERICK C. "Mathematics: The Subject and the Teacher," *Mathematics Teacher*, VI, No. 4 (June, 1914), 217-29.

Gives a somewhat detailed account of the methods used in the mathematics department of Williams College. Nine-tenths of the courses are based on the textbook work and are given to classes averaging fifteen students.

WHEELOCK, CHARLES F., and BOBB, MAURICE J. "Are Particular Abilities Necessary for Pupils to Gain an Understanding of the Elementary and Secondary Mathematics as Usually Given at the Present Time?" *Mathematics Teacher*, VI, No. 4 (June, 1914).

The first writer is of the New York State Department of Education and the second of the University of Pennsylvania. They answer the question in

the affirmative. The first writer believes the answer to the question expressed in the title lies in the quality of teaching done in the secondary schools. The second writer advocates less memory, more teamwork of chalk and talk, and more cultivation of imagination and observation in our mathematics.

HART, JAMES N. "What Mathematical Knowledge and Ability May Reasonably Be Expected of the Student Entering College?" *Mathematics Teacher*, VI, No. 3 (March, 1914), 158-65.

The writer says all high-school pupils should be "exposed" to a year of algebra and a year of plane geometry. If it does not "take" they should not for that reason be refused a diploma, nor, in rare cases, admission to college, if they present high scholarship in other lines.

## CURRENT EDUCATIONAL LITERATURE IN THE PERIODICALS<sup>1</sup>

IRENE WARREN

Librarian, School of Education, University of Chicago

Anderson, William L. The stimulative and correlative value of a well-balanced course in commerce and industry. *School R.* 22:455-64. (S. '14.)

Bennett, Charles A. How may manual training retain its earlier educational values? *Man. Train. M.* 16:9-15. (S. '14.)

Bobbitt, John Franklin. The school survey: finding standards of current practice with which to measure one's own schools. *El. School J.* 15:41-54. (S. '14.)

Butler, Nathaniel. Report of the Twenty-sixth Educational Conference of the Secondary Schools in Relations with the University of Chicago. *School R.* 22:465-77. (S. '14.)

(The) classics and a "bad education." *Outl.* 107:957-62. (22 Ag. '14.)

Education: the tools and the purpose. *Outl.* 107:949-51. (22 Ag. '14.)

Gathany, J. Madison. Using magazines in history classes. *Outl.* 107:1053-56. (29 Ag. '14.)

Giles, F. M. Investigation of study habits of high-school students. *School R.* 22:478-84. (S. '14.)

Hervey, William Addison. How to test a practical command of French and German. *Educa. R.* 48:141-50. (S. '14.)

Jones, Adam Leroy. Entrance examinations and college records. *Educa. R.* 48:109-22. (S. '14.)

Judd, Charles H. Standards in American education. *School R.* 22:433-43. (S. '14.)

Macdonald, Alice B. Some reflections of a Philistine. *Educa. R.* 48:123-40. (S. '14.)

Mason, Gregory. Teaching by the movies. The uses of motion pictures in education and an interview with their perfector, Thomas A. Edison. *Outl.* 107:963-70. (22 Ag. '14.)

Osgood, Edith W. The development of historical study in the secondary schools of the United States. *School R.* 22:444-54. (S. '14.)

Payne, E. George. The German *Meisterkurse*. *Man. Train. M.* 16:1-9. (S. '14.)

Raymond, Anan. The new university. *Educa. R.* 48:151-65. (S. '14.)

Yocom, A. Duncan. The determinants of the course of study. *Educa. R.* 48:166-83. (S. '14.)

<sup>1</sup> Abbreviations.—*Educa. R.*, *Educational Review*; *El. School J.*, *Elementary School Journal*; *Man. Train. M.*, *Manual Training Magazine*; *Outl.*, *Outlook*; *School R.*, *School Review*.

